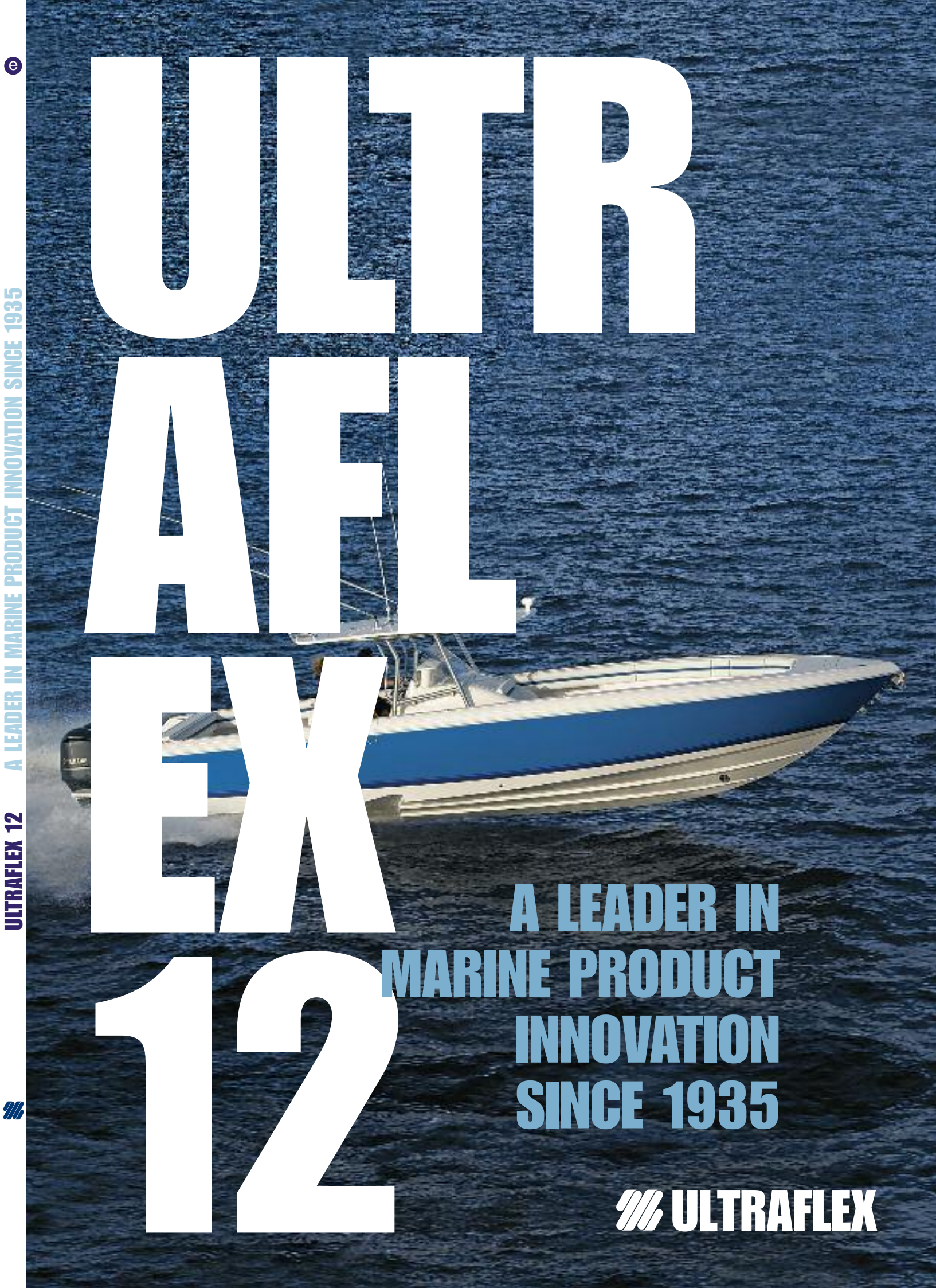
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A LEADER IN MARINE PRODUCT INNOVATION SINCE 1935
ULTRAFLEX 12
A LEADER IN
MARINE PRODUCT
INNOVATION
SINCE 1935
ULTRAFLEX

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ULTRAFLEX GROUP

77 years
1935-2012

1935 - 2012

Ultraflex Group has 77 years of experience in manufacturing and distributing the highest quality and most innovative products. The Ultraflex Group affiliate Companies that design and produce widely known equipments in the marine, industrial, architectural, Led technology and alternative energy fields.

ULTRAFLEX
Steering and control systems for pleasure boats

UFLEX
Worldwide distribution of marine accessories

UFLEX - Divisione energia
Systems and accessories for alternative energy applications

ULTRAFLEX CONTROL SYSTEMS
Window and skylight remote controls. Innovative LED road signs

INDUSTRIA di LEIVI
Mechanical remote controls in the industrial field

UFLEX USA
Manufacturing the world's finest marine products

MARESI LTD
Trim tabs and magnetic compasses

Factory in Casella

Factory in Borgo Fornari

Quality Management System

The Ultraflex Quality Management Systems is certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 9001:2000 rule. Ultraflex certification n° 6669/02/S (former 420/96). The quality management system involves all the company resources and processes starting from the design, in order to:

- Assure product quality to the customer
- Set up the actions to maintain and improve the quality standards constantly
- Pursue a continuous process improvement to meet the market needs

The Ultraflex Environmental Management System is certified CISQ-IQNet by the Italian Shipping Registry (RINA), in conformity with the UNI EN ISO 14001. Ultraflex certification n° EMS-1282/S.

Constantly test the products to verify their conformity with the EEC 94/25 and ABYC (American Boat and Yacht Council) requirements.

SOCIO UCINA

MEMBER OF NMMA National Marine Manufacturers Association

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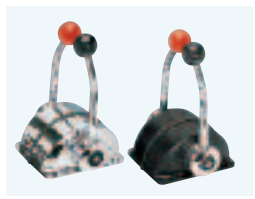

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The descriptions and guidelines shown in this catalogue should be used as general reference only. For any further information please contact our Technical Service.

CE

BUREAU VERITAS 1828

ULTRAFLEX - GUARANTEE CONDITIONS AND EXCLUSIONS

Ultraflex products are guaranteed against defects in material or workmanship for a period of two years following the date of manufacture. If the Ultraflex products are installed and used on commercial boats the guarantee is limited to one year following the date of manufacture.

Defective products should be returned freight prepaid to the Ultraflex facility and must be accompanied by an Ultraflex issued Return Goods Authorization number.
Upon receipt, the product will be examined to determine the cause of defect. If the product is determined to have a defect in workmanship or material, it will be repaired or replaced at the Ultraflex discretion.
This guarantee does not cover labor.
This guarantee does not cover products that have been misinstalled or misapplied. Furthermore, it does not cover claims for direct or indirect damage.
We decline liability and exclude guarantee if products are improperly installed, misapplied, or misused.

Our products are not intended to be used in racing applications, therefore this guarantee does not cover our products if they are used for racing purposes.

Power A Mark II™ and **Power C™.** The "Power A Mark II™ and Power C™ - User and Installation Manual" describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty. Descriptions and drawings in that manual are suitable to allow installation and use of the product to skilled persons. In case of doubt and/or for any information, please contact our Technical Service.

ULTRAFLEX mechanical steering systems components as steering helms, steering cables and steering wheels are all marked CE in compliance with the EEC Directive 94/25 and the rules EN29775 - EN28848. Ultraflex hydraulic steering system components are all marked CE in compliance with the EEC Directive 94/25 and the rule ISO 10592. The CE Examination on the ULTRAFLEX steering systems has been carried out by an Institute certified by the European Commission.

Ultraflex electronic control components are EMC certificated and CE marked in conformity with CEI EN60945 and UNI-EN ISO 11547 standards.

We kindly remind you that on the boats marked CE it is compulsory to install steering systems with components marked CE (see art. 4 and 5 of Directive 94/25/CE).

We inform you the ULTRAFLEX guarantee is null and void if some ULTRAFLEX components are installed on a steering system together with products of other brands, with the exception of those brands clearly specified in our catalogue on page 23.

The descriptions and guidelines shown in this catalogue should be used as general reference only. For any further information please contact our Technical Service.

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ELECTRONIC CONTROL SYSTEMS

Power & Control

Power A Mark II™

ELECTRONIC CONTROL SYSTEM

The easy to install PowerA Mark II™ control system provides fingertip operation of throttle and shift levers.
Using reliable and precise digital data transmission, this single or dual function control system is specifically designed to work on mechanically controlled as well as electronic and electro-hydraulic gas and diesel inboards, sterndrives and outboards.
The PowerA Mark II™ comes with many features including Dock Assist, which offers the operator the opportunity to reduce the sensitivity of the throttle function for easier dockside handling.
Other standard features include RPM Synchronization, which reduces engine vibration and improves fuel economy, a High Idle feature to increase RPM where higher idle is necessary for cold engine operations, a programmable Trolling Valve Control and neutral Warm Up.
The stylish and ergonmically designed control makes the PowerA Mark II™ suitable for many types of applications ranging from sport boats, yachts and commercial applications.
Available with and without trim, the control has audible and visual interfaces which alert the operator to the current status of the control system.
With the ability to control up to 2 engines from up to 4 different stations, the PowerA Mark II™ is a modular and flexible system with simple to install components.
The unique Control Unit Display of the PowerA Mark II™ provides simple touch pad programming with descriptive information regarding the set up, tuning and diagnostics of the system.
The Power A Mark II is a system that can replace mechanical controls either on fully mechanical engines, or on fully electronical engins, or on engines with the combination of both characteristics.

PRIVATE PROTOCOL CAN BUS FOR DATA TRANSMISSION

SUITABLE FOR MECHANICAL SHIFT AND THROTTLE AS WELL AS ELECTRONIC THROTTLE AND SHIFT

CONNECTION OF MULTIPLE STATIONS UP TO 4 CONTROLS

MODULAR SYSTEM

DIRECT COMUNICATION WITH ELECTRONIC ENGINES (SAE J 1939 or NMEA 2000)

PLUG'N PLAY CONNECTIVITY

AUTOMATIC ENGINES SYNCHRONIZATION

DOCK ASSIST

FULLY PROGRAMMABLE SHIFT DELAYS

PERSONALIZED LABEL UPON REQUEST

CE

CONTROL STATIONS:

Control without trim:	
Single engine	- 42009 G
Twin engines	- 42011 T
Control with trim:	
Single engine	- 42010 R
Twin engines	- 42012 V

IP protection: IP66

The "**Power A Mark II™ - Installation and User Manual**" describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty and obtain the better performance. Description and drawings in that manual are suitable to allow an easy installation and safe use of the product by skilled personnel. In case of doubt and/or for any information, please contact our Technical Service.

PLEASE REFER TO LIMITED WARRANTY CONDITIONS REPORTED IN THIS CATALOGUE.

TECHNICAL FEATURES:

- Single Lever/Dual Function and Dual Lever/Dual Function for shift, throttle and trolling
- Up to 4 control stations
- Power supply: min 9 max 32V
- Working temperature: -25°C to +75°C
- Control station functions:
  - Station Select
  - Engines Warm up
  - High idle
  - Docking
  - Engine synchronization
  - Trolling valve
- Electronic throttle outputs:
  - Voltage (double output 0 - 5V and 0 - 2,5V)
  - PWM (0-100%, frequency from 200Hz to 1kHz)
  - Current (4 - 10mA)
- Digital Throttle Output:
  - SAE J 1939
  - NMEA 2000
- Trolling valve output
  - Voltage (0 - 5V)
  - PWM (0-100%, frequency from 100Hz to 1 kHz)
  - Current (4 - 20mA)
- Electric shift control:
  - 2 or 3 ON/OFF or proportional solenoids
  - Shift delays fully settable

SAFETY DEVICES:

- Start in-gear PROTECTION(start inhibition with shifted gear)
- Audible and visual diagnostic failure alarm (READABLE MESSAGES ON THE CONTROL UNIT DISPLAY)
- Proportional shift delays
- Programmable working parameters
- Meets CEI EN 60945 standards

EMC CERTIFICATION AND CE MARK

Conforms with:

- CEI EN60945
- UNI-EN ISO 11547

COMPATIBILITY WITH ALL MECHANICAL THROTTLE ENGINES

COMPATIBILITY WITH ALL ELECTRONIC THROTTLE ENGINES

- Cummins, Detroit Diesel, Scania, Iveco, FPT, Lombardini, VM Motori, FNM, Yanmar, CMD-Volkswagen, Hyundai ecc.

The Power A Mark II™ electronic system actuators cannot be installed in those rooms where ignition-proof devices are required.

SYSTEM CONTROL UNITS

Control Unit

Control Unit - 42017 F
Control Unit: user interface for the configuration, settings and diagnostic of all the modules in a system.
IP protection: IP65
Dim.: 215 x 120 mm (8.5” x 4.7”)

V-Throttle
I-Throttle

V-Throttle - 42018 H - for 0-5V interfaces (voltage)
I-Throttle - 42019 K - for 4-20 mA interfaces (current)
They supply the throttle electronic signal. Required for use with direct connection to electronic throttle on the engine.
IP protection: IP65
Dim.: 205 x 110 mm (8” x 4.3”)

SAEJ-Throttle

SAEJ-Throttle - 42022 Y
It supplies the digital signal to CAN SAEJ 1939 or NMEA 2000 interfaces
IP protection: IP65
Dim.: 205 x 110 mm (8” x 4.3”)

Shift Unit

Shift Unit - 42023 A
It controls up to 2 shifts with solenoids. Required for use with direct connection to the electrical shift unit on the transmission.
IP protection: IP65
Dim.: 210 x 120 mm (8.3” x 4.7”)

E-Troll

E-Troll - 42024 C - It controls up to 2 electronic Trolling Valves
The **Shif Unit** (42023A) controls up to 2 PWM Trolling Valves.
They control up to 2 Trolling Valves with solenoids.
IP protection: IP65
Dim.: E-Troll 205 x 110 mm (8” x 4.3”)
Shift Unit 210 x 120 mm (8.3” x 4.7”)

Power Unit

Power Unit - 42026 G
Grants the power supply up to 4 modules with the input combination of up to 2 batteries, 12 and 24V. Required for all PowerA Mark II installations.
IP protection: IP65
Dim.: 205 x 110 mm (8” x 4.3”)

M-Actuator

M-Actuator - 42027 J
The electromechanical actuators can control any mechanical interface (throttle shift or trolling) through MACHZero and C8 mechanical cables.
IP protection: IP66
Length: 320 mm (12.6”)

CHART A - E-Throttle Unit

MODEL	P. No.	DESCRIPTION	FEATURES	No. OF ENGINES	NOTE
V-Throttle	42018H	Throttle with analog voltage interface	Redundant voltage input, IVS, PWM output.	1 - 2	FPT, VolksWagen, Yanmar, Mercruiser, Lombardini engine.
I-Throttle	42019K	Throttle with current analog interface (current loop)	Current outoputs.	1 - 2	4 - 20 mA throttle engines
SAEJ - Throttle	Custom	Throttle with SAEJ 1939 digital interface	CAN DeviceNet SAEJ 1939 outputs	1 - 2	SAEJ 1939 engines
NMEA - Throttle	Custom	Throttle with NMEA 2000 digital interface	CAN DeviceNet NMEA 2000 outputs	1 - 2	NMEA 2000 engines

CHART B - Throttle cables

MODEL	APPLICATION	LENGTH (m - ft)	P. No.	NOTE
Universal V-Throttle cable	Not redundant 5V cable/1 engine	2 - 6,6 4 -13,1	42029N 42030X	None
FPT V-Throttle cable	FPT engines 0 – 5 V cable (J-INV connector)	2 - 6,6 4 -13,1	42031Z 42032B	FPT, all engines with J-INV connector
FPT V-Throttle cable	FPT engines 0 – 5 V cable (J-D connector)	2 - 6,6 4 -13,1	42316S 42317U	FPT, all engines with J-D connector
VW V-Throttle cable (4-5-6 cylinder)	VW engines 0 – 5 V cable	2 - 6,6 4 -13,1	42033D 42034F	VW, 4, 5 and 6 cylinder
Mercruiser 4.2 Black V-Throttle cable	Mercruiser engines 0 – 5 V cable	2 - 6,6 4 -13,1	42035H 42036K	Mercruiser 4.2 black engines
Mercruiser QSD V-Throttle cable	Mercruiser engines 0 – 5 V cable	2 - 6,6 4 -13,1	42037M 42038P	Mercruiser QSD engines
Lombardini V-Throttle cable	Lombardini engines 0 – 5 V cable	2 - 6,6 4 -13,1	42039S 42040A	180 and 240 HP Lombardini engines.
Yanmar V-Throttle cable	Yanmar engines 0 – 5 V cable	2 - 6,6 4 -13,1	42041C 42042E	Yanmar BY engines.
Universal I/PWM-Throttle cable	PWM throttle cable with no connector	2 - 6,6 4 -13,1	42043G 42044J	Compatible with CAT electronic engines C30/C32
Universal SAEJ1939-Throttle cable	SAEJ1939 cable with no connector	2 - 6,6 4 -13,1	42045L 42046N	None
NMEA2000 Throttle cable	NMEA2000 cable	1 - 3,3 3 - 9,8 7 - 22,9	42047R 42048T 42049V	DeviceNet cable Drop type for NMEA2000 connection
Hyundai V-Throttle cable	Hyundai engines 0 – 5 V cable	2 - 6,6 4 -13,1	42288P 42289S	Hyundai engines
VM V-Throttle cable	VM engines 0 – 5 V cable	2 - 6,6 4 -13,1	42314M 42315P	VM engines

CHART C - Main system cables

DESCRIPTION	APPLICATION	LENGTH (m - ft)	P. No.	NOTE
Main power supply cable	Main power supply of the system	1 - 3,3 3 - 9,8 7 - 22,9 10 - 32,8	42052H 42053K 42054M 42055P	One each battery
Power cable extension	Power extension cable for modules connection	1 - 3,3 3 - 9,8 7 - 22,9 10 - 32,8	42056S 42057U 42058W 42059Y	One each mechanical actuator or shift unit
Shift cable	Solenoid connection cable	1 - 3,3 3 - 9,8 7 - 22,9 10 - 32,8	42060G 42061J 42062L 42063N	One each solenoid shift
Shift cable with electric Troll	Shift and trolling solenoid connection cable	1 - 3,3 3 - 9,8 7 - 22,9 10 - 32,8	42064R 42065T 42066V 42067X	One each shift and trolling with solenoids
3 solenoid Shift cable (neutral solenoid)	3 solenoid connection cable	1 - 3,3 3 - 9,8 7 - 22,9 10 - 32,8	42072P 42073S 42074U 42075W	One each 3 solenoid shift
CAN cable	Network connection cable	1 - 3,3 3 - 9,8 7 - 22,9 10 - 32,8 15 - 49,2 20 - 65,6	73639T 73680P 73681S 71021K 71031N 71032R	CAN cable

Note:
Should the engine inverter need the neutral solenoid, the proper shift cable must be used.
Custom cabling can be done, upon request

CHART D - Troll cables

DESCRIPTION	APPLICATION	LENGTH (m - ft)	P. NO.	CONNECTORS
Universal V-Troll cable	0-5 V cable with no redundancy	2 - 6,6 4 -13,1	42068Z 42069B	None
Universal I-Troll cable	4-20 mA output cable, no connectors included	2 - 6,6 4 -13,1	42070K 42071M	None

Spare parts

MODEL	DESCRIPTION	PART No.	Q.ty
Cable connection kit	Kit to connect the mechanical cable to the actuator	41898 N	1 for each actuator
Conduit clamp kit	Conduit clamp kit for mechanical cable	41897 L	1 for each actuator

CHART E - Components for Trolling Valve Systems

ENGINE	NO. OF ENGINES	COMPONENTS	P. No.	Q.TY
Mechanical trolling valve	**Single Engine**	Mechanical actuator (Troll) CAN cable Power cable extension	42027J Chart C Chart C	1 1 1
	Twin Engines	Mechanical actuator Power Unit CAN cable Power supply cable (general) Power cable extension	42027J 42026G Chart C Chart C Chart C	2 0 (*) 2 0 (*) 2
	(*) When there are no more free sockets in the existing power unit, add one Power Unit with one or two power supply cables according to battery number. Refer to the diagram on installation manual.			
Electric troll (proportional solenoid)	**Single Engine**	Shift Unit CAN cable Power cable extension Cavo Shift con Troll	42023A Chart C Chart C Chart C	1(**) 1(**) 1(**) 1
	Twin Engines	Shift Unit CAN cable Power cable extension Power Unit Power supply cable (general) Shift cable with Troll	42023A Chart C Chart C 42026G Chart C Chart C	1(**) 1(**) 1(**) 0 (*) 0 (*) 2
	(*) When there are no more free sockets in the existing power unit, add one Power Unit with one or two power supply cables according to battery number. Refer to the diagram on installation manual.			
	(**) When a shift unit is already present in the system, it can control the electric troll by using the proper cable. When a shift box is not present, add one to the system with the shift and CAN cables.			
Electronic Troll (0-5V, 4-20mA)	**Single Engine**	E-Troll Unit CAN cable Troll cable	42024C Chart C Chart D	1 1 1
	Twin Engines	E-Troll Unit CAN cable Troll cable	42024C Chart C Chart D	1 1 2

Power A Mark II™ ORDER GUIDE:

ENGINE	NO. OF ENGINES	COMPONENTS	P. No.	Q.TY
Electronic throttle **Electric shift**	**Single Engine**	Single control with trim (or no trim)	42010R (42009G)	1
		Control Unit	42017F	1
		E-Throttle unit	Chart A	1
		E-Shift unit	42023A	1
		Throttle cable	Chart B	1
		Shift cable	Chart C	1
		Power supply cable (general)	Chart C	1
		CAN cable	Chart C	3
		Network terminators	42028L	1
		Power Unit (optional for second battery)	42026G	1
		Power cable extension (optional for second battery)	Chart C	1
		Power supply cable (optional for second battery)	Chart C	1
	Two Engines	Dual control with trim (or no trim)	42012V (42011T)	1
		Control Unit	42017F	1
		E-Throttle unit	Chart A	1
		E-Shift unit	42023A	1
		Throttle cable	Chart B	2
		Shift cable	Chart C	2
		Power supply cable (general)	Chart C	1
		CAN cable	Chart C	3
		Network terminators	42028L	1
		Power Unit (optional for second battery)	42026G	1
		Power cable extension (optional for second battery)	Chart C	1
		Power supply cable (optional for second battery)	Chart C	1
Electronic throttle **Mechanical shift**	**Single Engine**	Single control with trim (or no trim)	42010R (42009G)	1
		Control Unit	42017F	1
		E-Throttle unit	Chart A	1
		Mechanical actuator	42027J	1
		Throttle cable	Chart B	1
		CAN cable	Chart C	3
		Power supply cable (general)	Chart C	1
		Network terminators	42028L	1
		Power Unit (optional for second battery)	42026G	1
		Power cable extension (optional for second battery)	Chart C	1
		Power supply cable (optional for second battery)	Chart C	1
	Two Engines	Dual control with trim (or no trim)	42012V (42011T)	1
		Control Unit	42017F	1
		E-Throttle unit	Chart A	1
		Mechanical actuator	42027J	2
		Throttle cable	Chart B	2
		CAN cable	Chart C	4
		Power supply cable (general)	Chart C	1
		Network terminators	42028L	1
		Power Unit	42026G	1
		Power extension cable	Chart C	2
		Power supply cable (optional for second battery)	Chart C	1
For each additional station add:				
Single Engine:		**Single lever control station with trim (or no trim)**	**42010R (42009G)**	**1**
		CAN cable	**Chart C**	**1**
Two Engines:		**Dual lever control station with trim (or no trim)**	**42012V (42011T)**	**1**
		CAN cable	**Chart C**	**1**

ENGINE	NO. OF ENGINES	COMPONENTS	P. No.	Q.TY
Mechanical throttle Electronic shift	Single Engine	Single control with trim (or no trim)	42010R (42009G)	1
		Control Unit	42017F	1
		E-Throttle unit	42023A	1
		Mechanical actuator	42027J	1
		Throttle cable	Chart C	1
		CAN cable	Chart C	3
		Power supply cable (general)	Chart C	1
		Network terminators	42028L	1
		Power Unit (optional for second battery)	42026G	1
		Power cable extension (optional for second battery)	Chart C	2
		Power supply cable (optional for second battery)	Chart C	1
	Two Engines	Dual control with trim (or no trim)	42012V (42011T)	1
		Control Unit	42017F	1
		E-Throttle unit	42023A	1
		Mechanical actuator	42027J	2
		Throttle cable	Chart C	2
		CAN cable	Chart C	4
		Power supply cable (general)	Chart C	1
		Network terminators	42028L	1
		Power Unit	42026G	1
		Power extension cable	Chart C	3
		Power supply cable (optional for second battery)	Chart C	1
Mechanical throttle Mechanical shift	Single Engine	Single control with trim (or no trim)	42010R (42009G)	1
		Control Unit	42017F	1
		Mechanical actuator	42027J	2
		CAN cable	Chart C	3
		Power supply cable (general)	Chart C	1
		Network terminators	42028L	1
		Power Unit	42026G	1
		Power extension cable	Chart C	2
		Power supply cable (optional for second battery)	Chart C	1
	Two Engines	Dual control with trim (or no trim)	42012V (42011T)	1
		Control Unit	42017F	1
		Mechanical actuator	42027J	4
		CAN cable	Chart C	5
		Power supply cable (general)	Chart C	1
		Network terminators	42028L	1
		Power Unit	42026G	1
		Power extension cable	Chart C	4
		Power supply cable (optional for second battery)	Chart C	1
For each additional station add:				
Single Engine:		**Single lever control station with trim (or no trim)**	**42010R (42009G)**	**1**
		CAN cable	**Chart C**	**1**
Two Engines:		**Dual lever control station with trim (or no trim)**	**42012V (42011T)**	**1**
		CAN cable	**Chart C**	**1**

ELECTRONIC CONTROL SYSTEM

Power C is a distributed intelligence system featuring 1 microprocessor in each control head for each lever and 2 micro-processors in each actuator to operate the clutch and the throttle of the engine.
The digital data transmission between the control head and the actuator microprocessors utilizes a CAN Bus 4-conductor shielded cable that reduces any possible interference and guarantees the maximum reliability.
The system is designed for single or twin engine vessels up to 35 m (115 ft) utilizing one actuator for each engine and one single lever control for each control station.
The pre-assembled electric cables (Plug'n Play connectors) guarantee fast and easy installation avoiding connection mistakes.
In the event of system failure, the audible and visual diagnostic alarms advise the cause of the problem in a very easy and quick way. The actuators can then be converted to manual operation thanks to a built-in mechanical device.
The standard twin engine synchronization system reduces the vibrations and the noise of the engines for high comfort and higher engine efficiency.
The docking function which comes standard with the system, permits to reduce the maximum RPM of the engine and allows the operator to use the complete movement of the lever during the docking maneuver.

**SINGLE ENGINE,
SINGLE CONTROL STATION APPLICATION
COMPONENTS:**

- 1 Power C actuator complete with 2 push-pull cable connector kits and 1 kit with 2 termination resistors
- 1 single lever control
- Pre-assembled electric cables (length required according to system configuration)
- 2 Ultraflex C2, or C8, or MACHZero mechanical push-pull cables (length required according to system configuration)
- 1 Automatic Power Selector (optional) P.No. 65198 T

**TWIN ENGINE,
SINGLE CONTROL STATION APPLICATION
COMPONENTS:**

- 2 Power C actuators complete with 2 push-pull cable connector kits, 2 installation kits and 2 pre-assembled jumpers
- 2 dual lever controls
- Pre-assembled electric cables (length required according to system configuration)
- 4 Ultraflex C2, or C8, or MACHZero mechanical push-pull cables (length required according to system configuration)
- 1 Automatic Power Selector (optional) P.No. 65198 T

The Power C™ electronic system actuators cannot be installed in those rooms where ignition-proof devices are required.

On request a POWER C system version with RINA Type Approval Certificate (No. ELE247004CS) is available.
RINA capproved actuator: Part No. 40802 R
For any further information, please contact our Techical Service

CAN BUS DIGITAL DATA TRANSMISSION

CAN BUS DIGITAL DATA TRANSMISSION
PLUG'N PLAY CONNECTIONS
AUTOMATIC SYNCHRONIZATION FUNCTION
RPM REDUCTION FOR DOCKING MANEUVERS
UP TO 7 CONTROL STATIONS
SAFETY MANUAL MANEUVERING DEVICE
PROPORTIONAL SHIFT DELAYS
ACTUATORS SUITABLE TO CONTROL "TROLLING VALVE" ARE AVAILABLE ON REQUEST
MEETS CEI EN 60945 STANDARDS
CE MARKED

Single - 39974 P
Twin - 39308 Z
Single "troll" - 41160 F
Twin "troll" - 41010 K

TECHNICAL FEATURES:

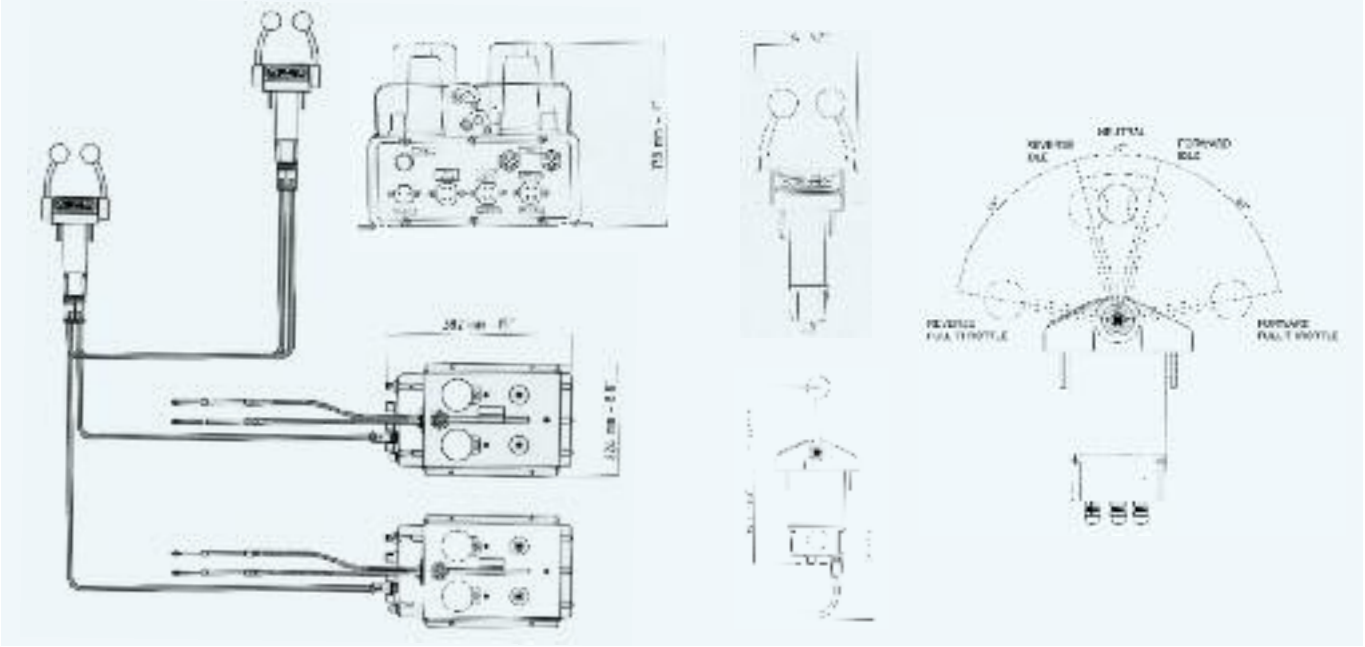
- Single lever to control both shift and throttle
- Distributed intelligence system
- Up to 7 control stations
- 12/24 Volts DC power supply
- Fast and easy installation (Plug n'Play)
- Station select and station transfer function (STATION SELECT)
- Neutral throttle warm up (WARM UP)
- High/Low idle engine RPM selection (HIGH IDLE)
- Automatic twin engine RPM synchronization (SYNC)
- Docking function (DOCK)
- Control panel light calibration
- Audible and visual indicators for neutral position
- Mechanical interface to most engine/transmission combinations
- Initial system function settings
- Engine trolling valve control when using the specific actuators (page 20) and the "troll"control boxes

Single - 39973 M
Twin - 39607 K
Single "troll" - 41161 H
Twin "troll" - 41163 M

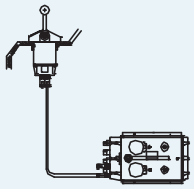
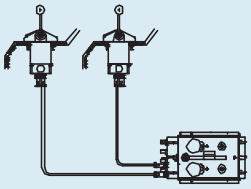
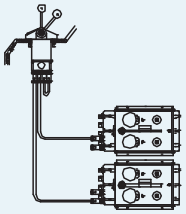
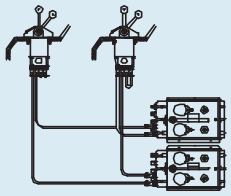
SAFETY:

- Start in-gear protection
- Low clutch oil pressure alarm
- Audible and visual diagnostic failure alarm
- Safety manual maneuvering device on the actuator
- Proportional shift delays
- Meets CEI EN 60945 standards

Single - 39972 K
Twin - 39608 M
Single "troll" - 41162 K
Twin "troll" - 41164 P



ORDER GUIDE:

DIAGRAM	SYSTEM	COMPONENTS	PART No.	Qty
	**PwC11** **Single Engine** **Single Station**	Actuator Single Control Head Power In Cable Neutral Safety - Oil Input Cable Alarm Out - On Off CableCAN Bus CAN Bus Cable Installation Kit	39602 Z (page 19) Chart C1 Chart C1 Chart C1 Chart C1 41889M	1 1 1 1 1 1 1
	**PwC12** **Single Engine** **Twin Station**	Actuator Single Control Head Power In Cable Neutral Safety - Oil Input Cable Alarm Out - On Off Cable CAN Bus Cable Installation Kit	39602 Z (page 19) Chart C1 Chart C1 Chart C1 Chart C1 41889M	1 2 1 1 1 2 1
	**PwC21** **Twin Engine** **Single Station**	Actuator Twin Control Head Power In Cable Engine Signal Cable (Optional) Neutral Safety - Oil Input Cable Alarm Out - On Off Cable CAN Bus Cable Installation Kit	39602 Z (page 19) Chart C1 Chart C1 Chart C1 Chart C1 Chart C1 41888K	2 1 2 2 2 2 2 1
	**PwC22** **Twin Engine** **Twin Station**	Actuator Twin Control Station Power In Cable Engine Signal Cable (Optional) Neutral Safety - Oil Input Cable Alarm Out - On Off Cable CAN Bus Cable Installation Kit	39602 Z (page 19) Chart C1 Chart C1 Chart C1 Chart C1 Chart C1 41888K	2 2 2 2 2 2 4 1

WARNING: For the applications with engines featuring **"TROLLING VALVE"** use the Actuator P.No. 41009 B instead of the standard actuator P. No. 39602 Z and add 1 "troll" Actuator P.No. 40663 D for both single engine and dual engine systems. Order "troll" type controls.

CHART C1: Available electric cables:

LENGTH	POWER IN	ENGINE SIGNAL	NEUTRAL SAFETY/OIL INPUT	ALARM OUT/ON OFF	CAN
6 m - 20 ft	71016 T	71019 Z	71017 V	71018 X	71030 L
10 m - 33 ft	71026 W	71029 C	71027 Y	71028 A	71021 K
15 m - 50 ft	71033 T	71036 Z	71034 V	71035 X	71031 N
20 m - 66 ft					71032 R
25 m - 82 ft					71094 P

NOTE: For applications with cables whose length in not listed above, please contact our Technical Service.

The "Power C™ - User and Installation Manual" describes activities, operations, technical specifications which must be followed during the installation and/or usage of the product, in order to keep a valid warranty. Descriptions and drawings in that manual are suitable to allow installation and use of the product to skilled persons. In case of doubt and/or for any information, please contact our Technical Service.

PLEASE REFER TO LIMITED WARRANTY CONDITIONS REPORTED IN THIS CATALOGUE.

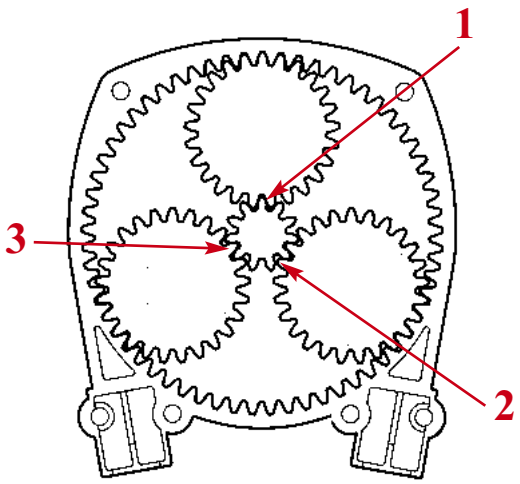
SUGGESTIONS AND WARNINGS WHEN SELECTING A MECHANICAL STEERING SYSTEM

Selection of the appropriate mechanical steering system is an important factor for the safety and functionality of your boat.
The combination of engine power, hull type and boat speed influence the correct selection of the steering system.
The load on the steering system increases with the boat speed and engine power; the torque generated by the propeller rotation in high power outboard applications can make it hard to steer.

Big boats with displacement hulls and inboard or non power assisted stern drive engines, can generate high rudder loads: in these cases a mechanical steering system will be inadequate and we suggest the use of an Ultraflex hydraulic steering system.

We always recommend consulting qualified personnel when selecting, installing and maintaining a steering system for your boat.

ADVANTAGES OF A PLANETARY GEAR DESIGN

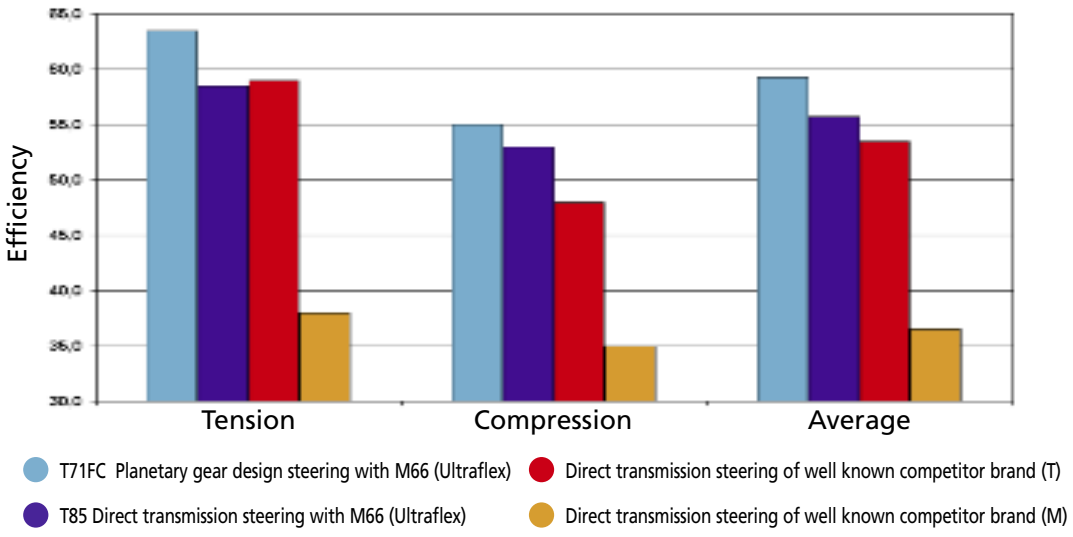


Ultraflex mechanical steering helms T71FC, T73NRFC as well as dual cable versions and tilt wheel versions use a Planetary Gear Design. A Planetary Gear Design has three satellite gears that rotate on their axis and at the same time rotate around the central helm axis. This allows for equal distribution of engine torque over three points of the central gear, dividing and balancing the system loads. The benefits of this special design are increased system longevity, increased efficiency and less engine feedback compared to single pinion gear helms.

EFFICIENCY COMPARISON TESTS

Test configuration:
3 bends at 90°; 1000N load

NOTE: indicated figures have been obtained after 500 cycles of running from samples bought from after-market sources


Efficiency
Tension
Compression
Average
T71FC Planetary gear design steering with M66 (Ultraflex)
T85 Direct transmission steering with M66 (Ultraflex)
Direct transmission steering of well known competitor brand (T)
Direct transmission steering of well known competitor brand (M)

THE IMPORTANCE OF A NON-REVERSIBLE STEERING SYSTEM FOR INCREASED SAFETY

The steering system of a boat is the mechanism that determines the boat direction when the steering wheel is turned.
If, for any circumstance, the driver does not hold the steering wheel, a dangerous situation may occur caused by a sudden change of direction of the boat due to external forces (waves, currents, etc.) or internal forces such as rudder torque originated by the way of rotation of the propeller.
Engine torque usually generates a load on the steering system that must be continually compensated for by the driver even when the boat is going straight.
The additional effort by the driver to maintain a true course can often cause fatigue.

With **Ultraflex Non-Reversible** steering helms T73NRFC, T74NRFC, T83NRFC the loads applied to the steering system are no longer a problem.
A special patented device allows the helm shaft to lock until turned by the driver, maintaining the boat direction and neutralizing the feedback loads on the steering cable.
This mechanism is engaged when the driver is not turning the wheel and is automatically disengaged as soon as the driver applies pressure on the wheel to change direction of the boat.
The **Ultraflex Non-Reversible** mechanism makes driving a boat safer and easier.

USE AND MAINTENANCE

The steering cable must be installed avoiding excessive and/or tight bends. This will provide the driver with easy handling at all speed, helping to reduce inefficiency and excess play in the system.

Marine corrosion may cause the materials to deteriorate affecting maneuvering efficiency and in the worst case, system failure. By following the engine manufacturer specifications, the steering cable end fittings and the engine cable support must be cleaned and greased periodically; these simple operations minimize wear and corrosion in the system.

The steering cable must be regularly inspected. If steering becomes hard, inconsistent, cuts on the conduit surface are noticed, or any other component found damaged, the cable must be replaced immediately.

When storing your boat for an extended period of time we recommend removing the steering cable end fitting from its engine side support and cleaning it adequately.

SELECTION OF STEERING SYSTEM AND CABLE LENGTH MEASUREMENT

APPLICATION	ENGINE POWER	STEERING SYSTEM	
OUTBOARD	up to 40 kW (55cv)	TM48 - T67	Twin cable systems are recommended for boats that exceed 50 mph. Always follow engine manufacturer's instructions.
	BOAT LENGTH		
	up to 30' (9m)	T85 - T71FC - T81FC - T73NRFC - T83NRFC - T86 - T88NR - T96 - T98NR	
		Twin cable rotary steering systems	
INBOARD	up to 35' (10.5m)	T71FC - T81FC - T73NRFC - T83NRFC - T86 - T88NR - T96 - T98NR	
		Twin cable rotary steering systems	
STERNDRIVE POWER ASSISTED		T85 T71FC - T81FC - T86 - T96	
		Twin cable rotary steering systems	

NOTE: sterndrive engines not equipped with power steering can create very high steering loads. Our hydraulic steering systems are recommended for these type of boats. For any further information please contact our Technical Service Department.

- Speed, hull, horsepower, engine type, displacement and size are major factors in boat performance and handling characteristics. The above selection guide should be used as a general reference only.
- One of the major factors in selecting a steering system is proper cable length. Due to specific routing in each boat, these approximate lengths will vary. Final selection should be made with the assistance of a qualified technician.
- Ultraflex mechanical steering systems should not be used on boats equipped with engines that exceed the maximum horsepower rating of the boat.

HOW TO MEASURE FOR NEW STEERING CABLE INSTALLATION

Add. A + B + C and subtract 10 cm (4") for each 90° bend in the cable. For installation through the engine tilt tube, add 30,5 cm (1 ft) to the measure calculated above.
To order in foot length, divide by 30,5 and round off to next whole foot.

Fig. 1

Fig. 2

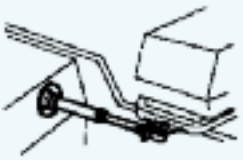


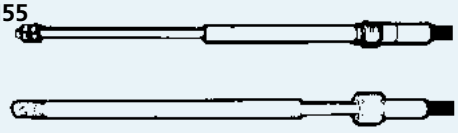
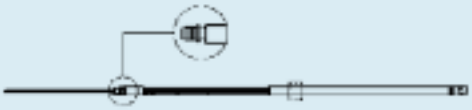
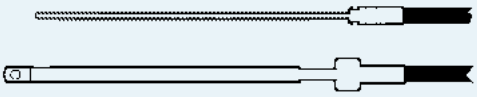
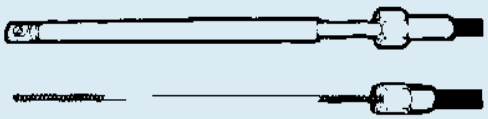
Fig. 3

TILT TUBE MOUNTING - Fig. 1
Example (dimensions in cm):
A (50) + B (250) + C (80) = 380 - 20 for two 90° bends = 360 + 30,5
For a thru-tube installation
390,5 cm : 30,5 = 12,8 ft;
round off to 13 ft

TRANSOM SUPPORT OR SPLASHWELL MOUNTING - Fig. 2-3
Example (dimensions in cm):
A (50) + B (250) + C (80) = 380 - 20 for two 90° bends = 360:
30,5 = 11,8 ft; round off to 12 ft

REPLACEMENT STEERING CABLES

***) NOTE:** With C230/C231 Morse® and Compac - T® Teleflex® steering helms a K55 - 37816 I adaptor is required if using M58 Ultraflex steering cable manufactured prior to January 1995.

ULTRAFLEX REPLACEMENT CABLE	STEERING HELM	ADAPTOR REQUIRED
M55 	Ultraflex P14 - P15	none
M58 	T67 Ultraflex C230/C231 Morse® Compac - T® Teleflex® 805 TX®	none*
M66 	T85 - T71FC - T72FC - T73NRFC - T74NRFC - T81FC - T83NRFC - Ultraflex Safe - TQC® - NFB Safe - TII® - NFB 4.2® Teleflex® - D290 Morse®	none
	T71 - T72 - T73NR - T74NR - T81 - T83NR Ultraflex (discontinued)	**K66** - 38432Q
M47 -DISCONTINUED **USE M66+K66** 	T71 - T72 - T73NR - T74NR - T81- T83NR Ultraflex (discontinued)	none
	T85 - T71FC - T72FC - T73NRFC - T74NRFC - T81FC - T83NRFC Ultraflex	**K46**-35679L
	Safe - T® - Big-T® - Teleflex®	none
	806 TX®	**K54**-37811D
TM86	G86 - G88NR - G96 - G98NR Ultraflex Command 200 Morse® "The rack" SSC-124 Teleflex®	none
	NOTE: will NOT work with dual cable helms	

HOW TO MEASURE FOR REPLACEMENT STEERING CABLES

D = Conduit length

ORDER LENGTH: "D" dimension + 56 cm
To order in foot length, divide for 30,5 and round up to the next whole foot

Example: D= 305 cm + 56 cm= 361 : 30,5 = 11'8". Round up to 12 ft

TM48 STEERING SYSTEM

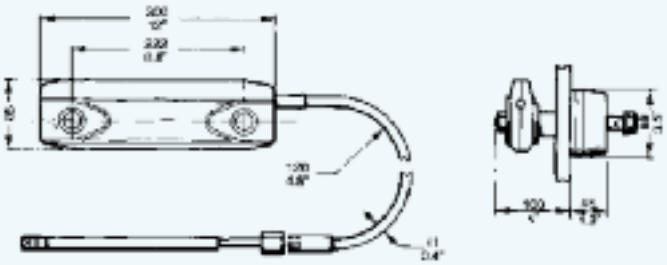
A COMPLETE STEERING SYSTEM CONSISTS OF:

- Preassembled helm with steering cable: **TM 48** available in 1 foot increments
- Shaft assembly:
  G16 - 31880 O - Black bezel
  G16W - 31881 P - White bezel
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- All stainless steel output end of cable as per ABYC P17 standards
- Reinforced nylon fiberglass housing
- Two optional installation positions for G16 shaft assembly
- Lock-to-lock steering wheel turns: approx. 2
- Stroke: 222 mm (8.7")
- Maximum allowable steering wheel diameter: 380 mm (15")
- Minimum steering cable bend radius: 200 mm (7.9")
- Exceeds EN 29775 safety standards
- APPLICATIONS: for use with outboard engines up to 40 kW (55 hp)

G16



T67 STEERING SYSTEM

A COMPLETE STEERING SYSTEM CONSISTS OF:

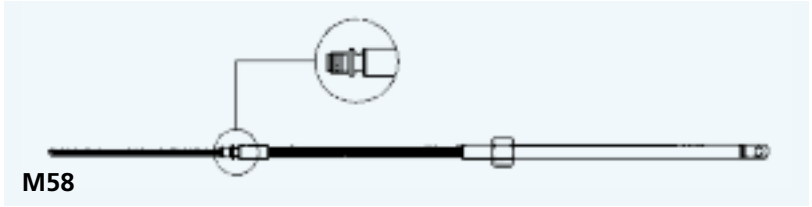
- Steering helm with friction:
  T67 - 35809 J - Black bezel
  T67W - 37925 M - White bezel
- Steering cable:
  M58 available in one foot increments
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

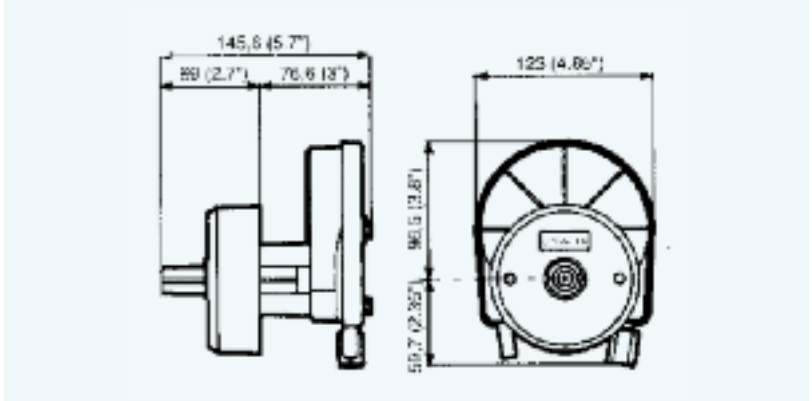
- All stainless steel output end of cable as per ABYC P17 safety standards
- Corrosion resistant materials
- Standard friction externally adjustable
- 90° bezel
- Four optional helm positions to facilitate steering cable installation
- Lock-to-lock steering wheel turns: approx. 2,5
- Stroke: 230 mm (9")
- Maximum allowable steering wheel diameter: 380 mm (15")
- Minimum steering cable bend radius: 200 mm (7,9")
- Available in package with ROTECH-IV
- Exceeds EN 29775 safety standards
- APPLICATIONS: for use with outboard engines up to 40 kW (55 hp) with the exception of EVINRUDE E-TEC™ 50 for which the use of T85 or T71FC is recommended.

T67

T67W



M58



T85 ROTARY STEERING SYSTEM

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  T85 - 38439 Z - Black bezel
  T85W - 39213 M - White bezel
- Steering cable: **M66**
- Optional steering wheel (see index)
- Engine connection kits (see index)

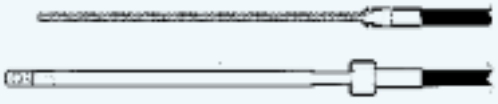
FEATURES AND TECHNICAL SPECIFICATIONS:

- All stainless steel cable output ends
- Corrosion resistant materials
- Particularly suitable where clearance is limited
- Lock-to lock steering wheel turns: approx. 3
- Stroke 228 mm (9")
- Maximum allowable steering wheel diameter: 406 mm (16")
- Minimum steering cable bend radius: 200 mm (7.9")
- Minimal feedback
- Compact for mounting
- T85 steering system is not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- Available in package with ROTECH-V

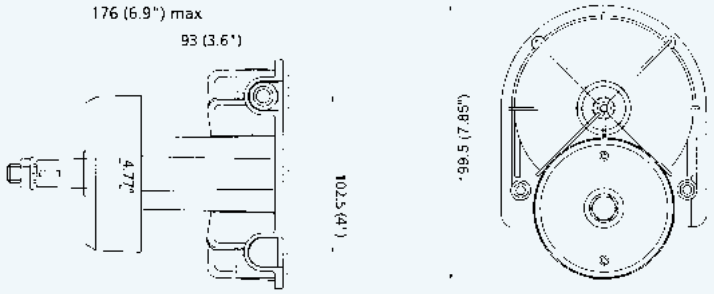
- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

T85

T85W



M66



T85

T71FC AND T72FC ROTARY STEERING SYSTEMS

FEATURING PLANETARY GEAR DESIGN

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  T71FC - 38867 H - single cable steering helm
  T72FC - 38868 K - dual cable steering helm
- Mounting bezel:
  X34 - 36654 B - black, 90° mounting
  X34W - 40654 C - white, 90° mounting
  X35 - 36655 C - black, 20° mounting
- Steering cable: **M66**
  NOTE: two M66 are needed with the T72FC system
- Optional steering wheel (see index)
- Engine connection kits (see index)

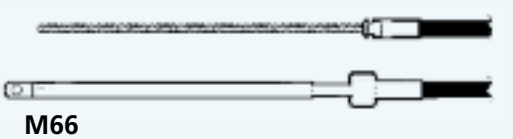
FEATURES AND TECHNICAL SPECIFICATIONS:

- Fast connect, simple installation
- All stainless steel cable output ends
- Corrosion resistant materials
- Particulary suitable where clearance is limited
- Optional 90° or 20° installation
- Standard 3/4" tapered shaft
- Lock-to-lock steering wheel turns: approx. 3,8
- Stroke: 228 mm (9")
- Maximum allowable steering wheel diameter: 406 mm (16")
- Minimum steering cable bend radius: 200 mm (7.9")
- Minimal feedback
- Compact for mounting
- T71FC and T72FC steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- For boats faster than 50 mph the twin cable steering system T72FC is recommended
- T71FC steering system is also available in package with ROTECH-I

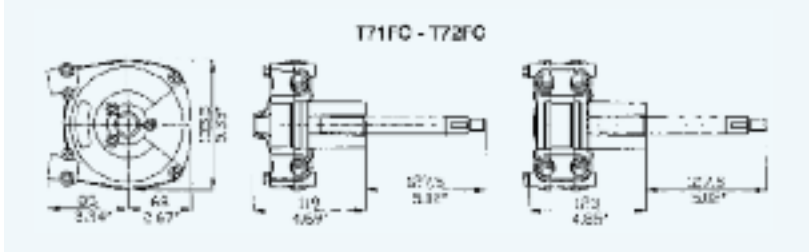
- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

T71FC

T72FC



M66



T73NRFC® AND T74NRFC® NON-REVERSIBLE STEERING SYSTEMS

FEATURING PLANETARY GEAR DESIGN

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  T73NRFC - 38869 M
  single cable steering helm
  T74NRFC - 38870 W
  dual cable steering helm
- Mounting bezel:
  X34 - 36654 B - black, 90° mounting
  X34W - 40654 C - white, 90° mounting
  X35 - 36655 C - black, 20° mounting
- Steering cable: **M66**
  NOTE: two M66 are needed with the T74NRFC system
- Optional steering wheel (see index)
- Engine connection kits (see index)

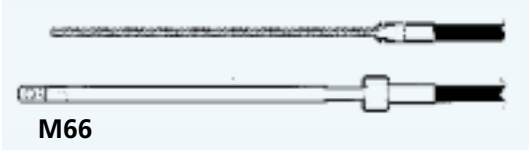
FEATURES AND TECHNICAL SPECIFICATIONS:

- Easy and safe steering : a **patented non-reversible mechanism** eliminates the continuous load on the operator caused by the propeller torque
- Fast connect, simple installation
- Compact rotary helm unit: the central location of the steering shaft makes these systems the most compact in their class
- Most suitable where clearance is limited
- Ideal for outboards and surfacing propellers
- Optional 90° or 20° installation
- Standard 3/4" tapered shaft
- All stainless steel cable output ends
- Made exclusively in corrosion resistant materials
- Lock-to-lock steering wheel turns: approx 3,8
- Stroke: 228 mm (9")
- Maximum allowable steering wheel diameter: 406 mm (16")
- Minimum steering cable bend radius: 200 mm (7.9")
- T73NRFC and T74NRFC steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- For boats faster than 50 mph the twin cable steering system T74NRFC is recommended
- Available in package with ROTECH-III

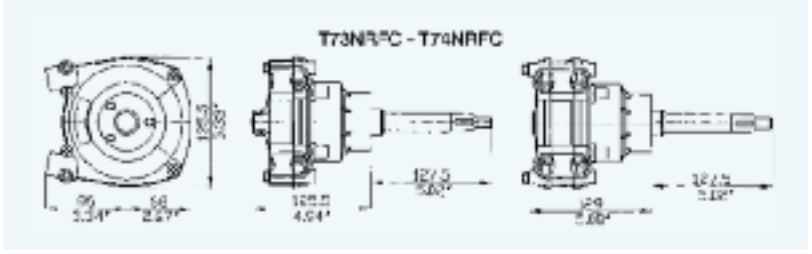
- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

T73NRFC

T74NRFC



M66



T81FC - T83NRFC®
TILT STEERING SYSTEMS

FEATURING PLANETARY GEAR DESIGN

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Steering helm:
  T81FC - 38957 J
  single cable steering helm
  T83NRFC - 38959 N
  non-reversible single cable steering helm
- Tilt mechanism:
  X52 - 39250 U
  NOTE: X52 tilt mechanism fits Ultraflex tilt mount rotary and rack and pinion steering helms as well as Ultraflex tilt mount hydraulic pumps except [redacted] steering systems
- Steering cable: **M66**
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

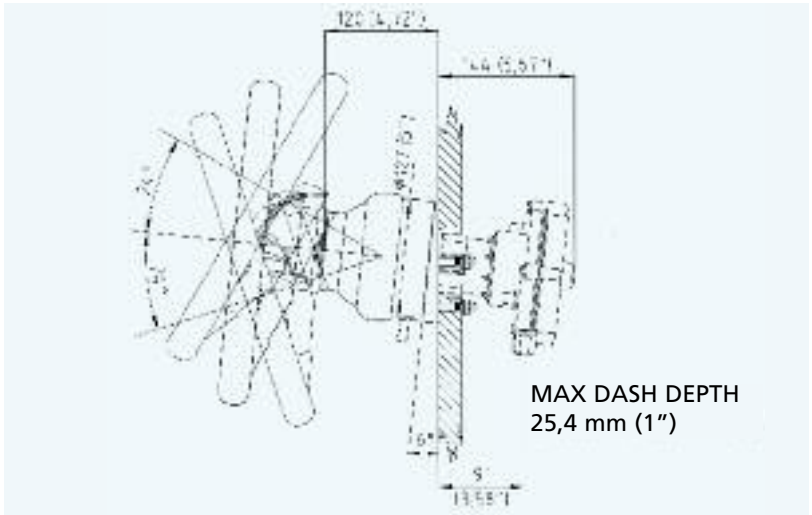
- Tilt range of 48° and five locking positions
- Fast connect, simple installation
- Tilt device eliminates underdash movement
- Standard 3/4" tapered shaft - stainless steel
- All stainless steel cable output ends
- Corrosion resistant materials
- Lock-to-lock steering wheel turns: approx. 3,8
- Stroke: 228 mm (9")
- Maximum allowable steering wheel diameter: 406 mm (16")
- Minimum steering cable bend radius: 200 mm (7.9")
- T81FC and T83NRFC steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat
- For boats faster than 50 hydraulic steering systems are recommended

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

T81FC with X52

X52

M66



T86 AND T88NR® RACK AND PINION STEERING SYSTEMS

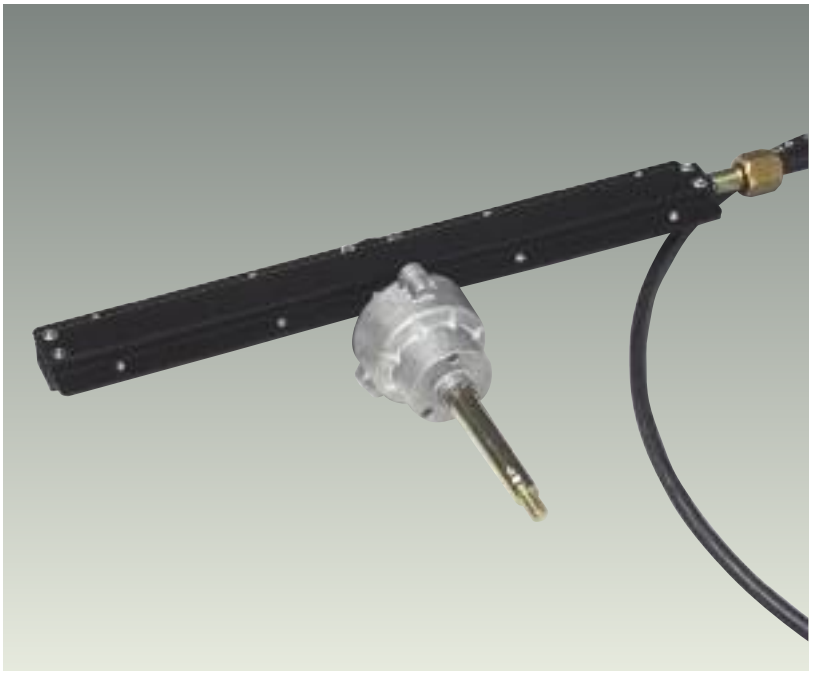
A COMPLETE STEERING SYSTEM CONSISTS OF:

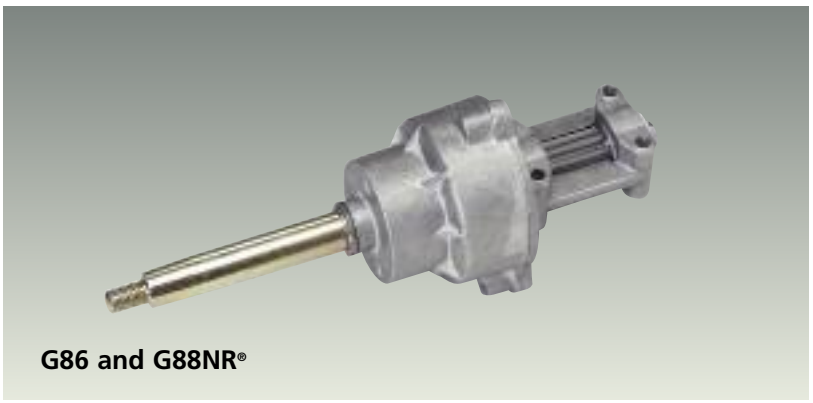
- Preassembled helm with steering cable: **TM86**
- Helm assembly:
  G86 - 39418 G standard
  G88NR® - 39419 J - non reversible
- Mounting bezel:
  X34 - 36654 B - black, 90° mounting
  X34W - 40654 C - white, 90° mounting
  X35 - 36655 C - black, 20° mounting
- Optional steering wheel (see index)
- Engine connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

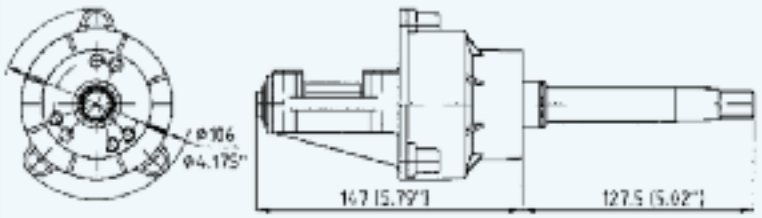
- Easy and safe steering: patented non reversible G88NR helm eliminates the continuous load on the operator caused by the propeller torque
- All stainless steel cable output ends
- Made exclusively in corrosion resistant materials
- Optional 90° or 20° installation
- Standard 3/4”tapered shaft
- Lock-to-lock steering wheel turns: 3,5
- Stroke: 210 mm (8.2”)
- Maximum allowable steering wheel diameter: 420 mm (16.5”)
- Minimum steering cable bend radius: 200 mm (7,9”)
- T86 and T88 NR steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

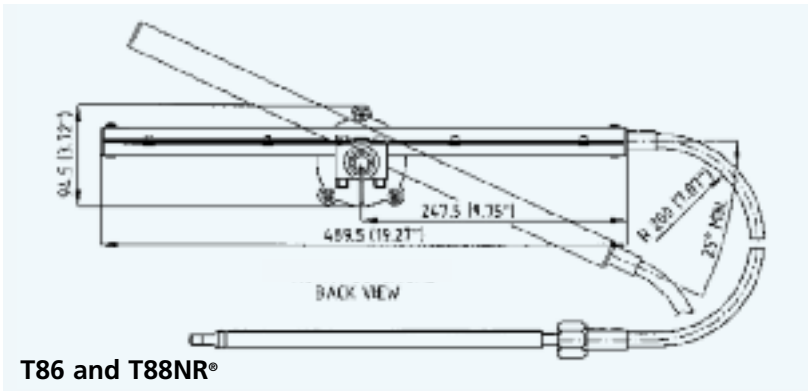




G86 and G88NR®



G86 and G88NR®



T86 and T88NR®

T96 AND T98NR®
RACK AND PINION TILT STEERING SYSTEMS

A COMPLETE STEERING SYSTEM CONSISTS OF:

- Preassembled helm with steering cable: **TM86**
- Helm assembly:
  G96 - 39650 L standard
  G98NR® - 39649 C non reversible
- Tilt mechanism:
  X52 - 39250 U
  NOTE: X52 tilt mechanism fits Ultraflex tilt mount rotary and rack and pinion steering helms as well as Ultraflex tilt mount hydraulic pumps except [redacted] steering systems
- Optional steering wheel (see index)
- Engine connection kits (see index)

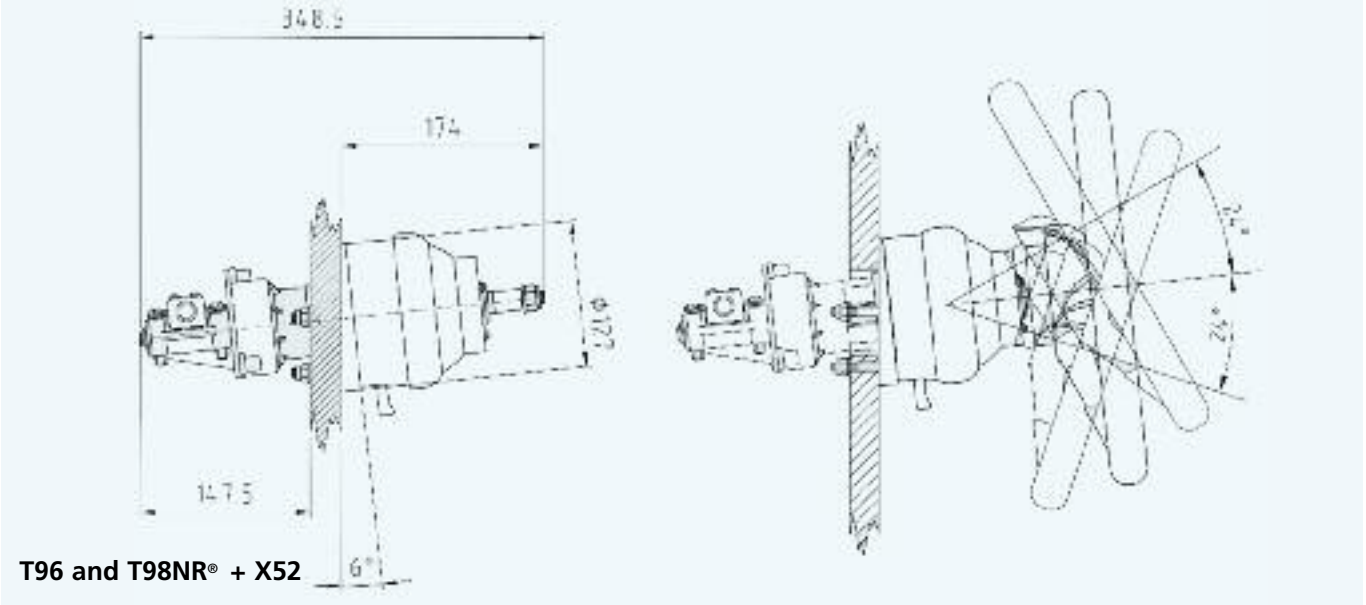
FEATURES AND TECHNICAL SPECIFICATIONS:

- Easy and safe steering: the patented non reverible G98NR helm eliminates the continuous load on the operator caused by the propeller torque
- Fast, simple installation
- Tilt range of 48° and five locking positions
- Tilt device eliminates underdash movement
- Standard 3/4" tapered shaft - stainless steel
- All stainless steel cable output ends
- Made exclusively in corrosion resistant materials
- Lock-to-lock steering wheel turns: 3,5
- Stroke: 210 mm (8.2")
- Maximum allowable steering wheel diameter: 420 mm (16.5")
- Minimum steering cable bend radius: 200 mm (7.9")
- T96 and T98NR® steering systems are not to be used on boats equipped with engines that exceed the maximum horsepower rating of the boat

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

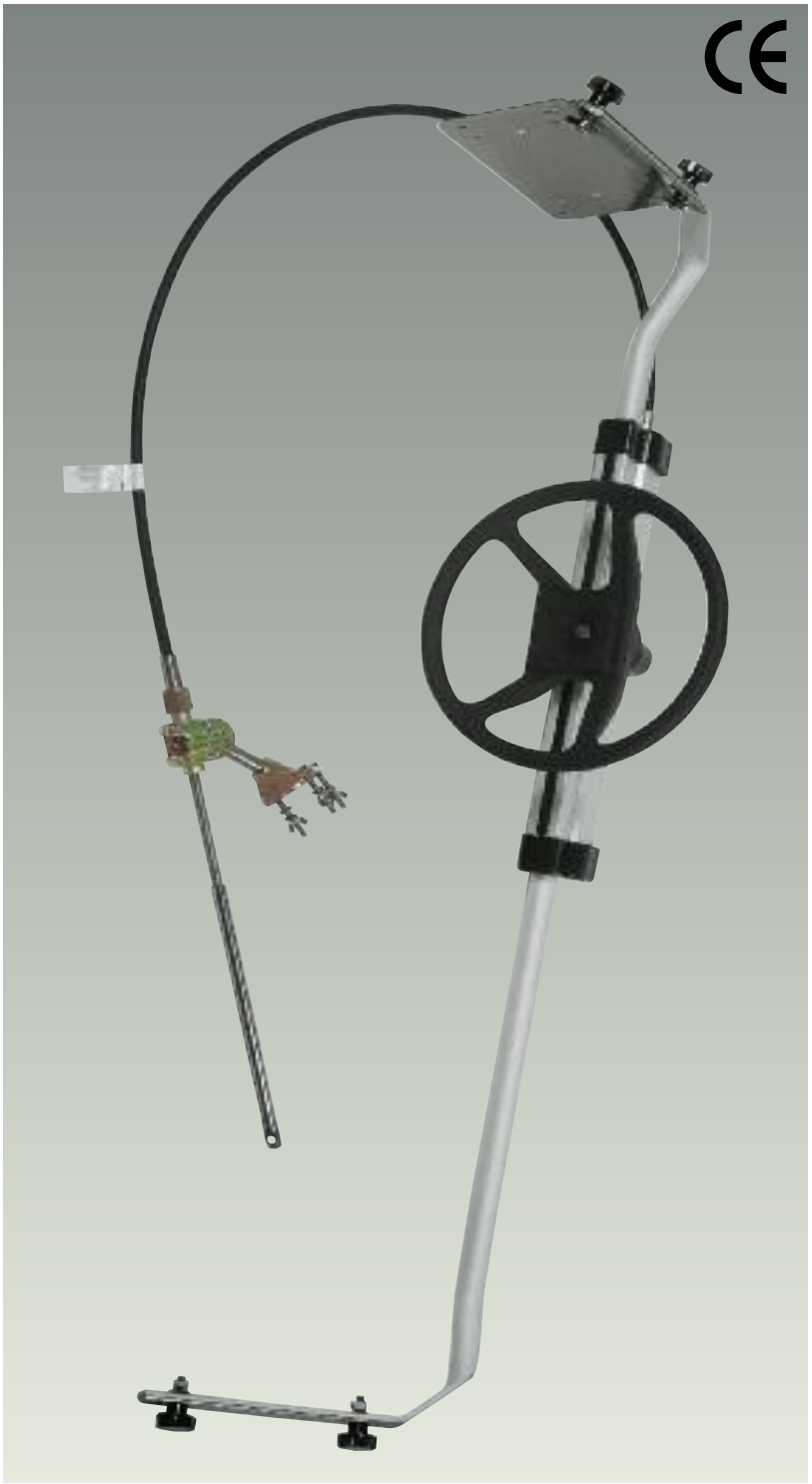
T96 and T98NR®

X52



T96 and T98NR® + X52

P14 - P15
STEERING SYSTEMS FOR INFLATABLE BOATS



A COMPLETE STEERING SYSTEM CONSISTS OF:

- Rack and pinion system with telescopic support tubes:
  P14 - 33391 Y - lacing cuff anchors
  P15 - 33392 Z - lacing cuff anchors
- Steering cable:
  M55 available in one foot increments
- Optional steering wheel (see index)
- Accessories: control box mounting plates and connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

- Anodized alloy telescopic support
- All stainless steel cable output ends
- Lock-to-lock steering wheel turns: approx. 2,5
- Stroke: 230mm (9")
- Maximum allowable steering wheel diameter: 380 mm (15")
- Minimum steering cable bend radius: 200 mm (7.9")

- Exceeds EN 28848 safety standards
- Exceeds ABYC P17 safety standards

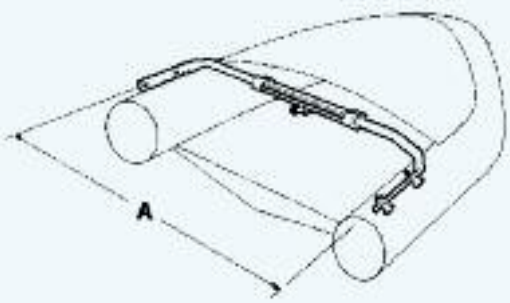
- APPLICATION: for use with inflatable boats equipped with outboard engines

CONTROL BOX SUPPORT BRACKETS FOR P14 - P15 STEERING SYSTEMS

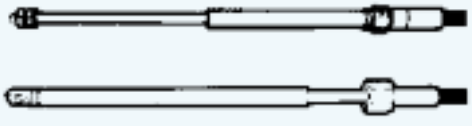
S45 - 32797 P
Designed for B47 and B49 control boxes

S56 - 35062 F
Designed for single lever control boxes.
To be positioned on the lacing cuff.

P14 - P15



P14 A = min. 1120 mm / max 1470 mm (45,7" - 57,8")
P15 A = min. 1470 mm / max 1820 mm (57,8" - 71,6")



M55

P26 STEERING SYSTEM FOR INFLATABLE BOATS

A COMPLETE STEERING SYSTEM CONSISTS OF:

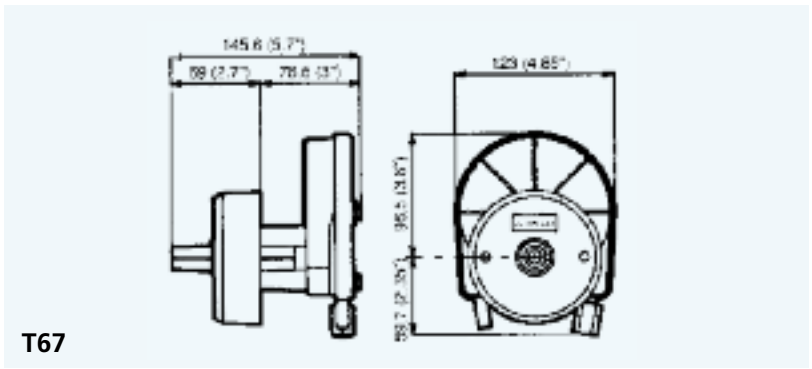
- Stainless steel, tubular, floor mounted pedestal:
  P26 - 36141 E
- Steering helm with friction:
  T67 - 35809 J - black bezel
  T67W - 37925 M - white bezel
- Steering cable:
  M58 available in one foot increments
- Optional steering wheel (see index)
- Accessories: control box mounting plates and connection kits (see index)

FEATURES AND TECHNICAL SPECIFICATIONS:

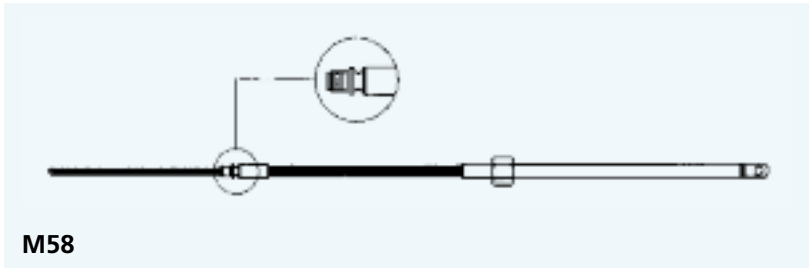
- Inflatable boats floor anchors
- Stainless steel tubular support with anodized aluminum control box mounting plate
- All stainless steel cable output ends as per ABYC P17 standards
- Lock-to-lock steering wheel turns: approx. 2,5
- Stroke: 230 mm (9”)
- Maximum allowable steering wheel diameter: 380 mm (15”)
- Minimum steering cable bend radius: 200 mm (7.9”)

- Exceeds EN 28848 safety standards

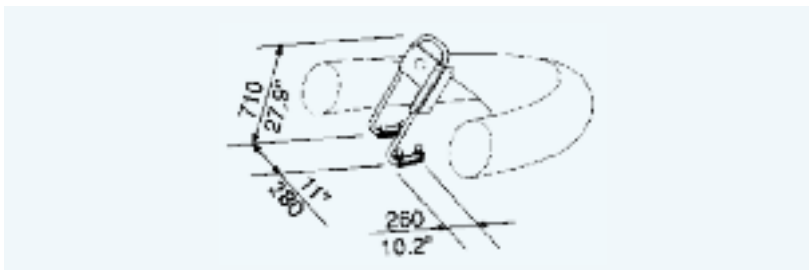
- APPLICATION: for use with inflatable boats equipped with outboard engines up to 40 kW (55 hp)



T67



M58



ACCESSORIES FOR STEERING SYSTEMS

STEERING CABLE SUPPORTS

S39 - 31916 F
Clamp block in marine aluminum and stainless steel

S40 - 31917 G
Splashwell mounting, corrosion resistant

S55 - 34744 A
90° rudder support, corrosion resistant

S61 - 36191 S
Clamp block, corrosion resistant painted steel

S62 - 38830 H
Same design as S61, smaller dimensions

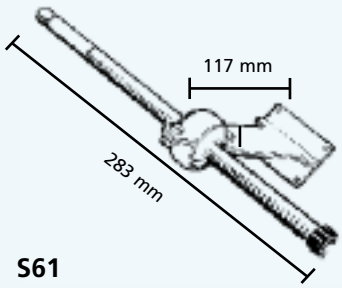
S39T - 53930 J - Tube only for S39

S40T - 53935 O - Tube only for S40

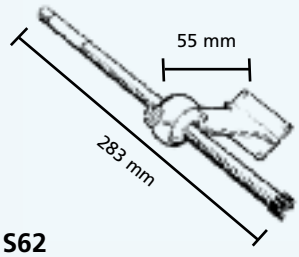
S39

S40

S55



S61



S62

Steering cable supports with stainless steel tube also available:

S39SS - 41551 X
S40SS - 41552 Z
S55SS - 41553 B
S61SS - 41554 D
S62SS - 41555 F
S39TSS - 72971 W
S40TSS - 72972 Y

ENGINE CONNECTION KITS

A50 - 31473 Q
Connection kit for Yamaha® engines

A73SS - 41255 T
Stainless steel tiller arm for some Mercury® engines

A74SS - 41256 V
Stainless steel tiller arm for some Johnson®, Evinrude®, OMC® engines

A75 - 34459 X Clevis

A73SS/A74SS - INOX

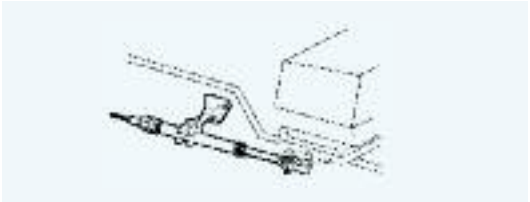
A50

A75

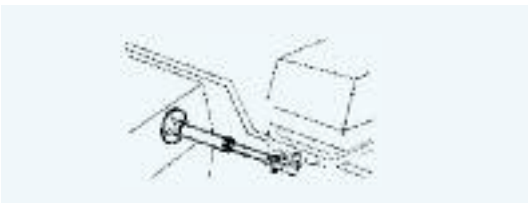
WARNING: A73 and A74 tiller arms are recommended for mechanical steering systems only

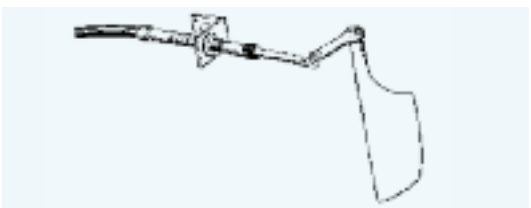
ACCESSORIES SELECTION GUIDE

INSTALLATION	CABLE SUPPORT + ENGINE CONNECTION KIT	INSTALLATION	CABLE SUPPORT + ENGINE CONNECTION KIT
A	S39 or S61 or S62 + A75	C	A73 or A74
B	S40 + A75	D	S55 + A75


A = With clamp block

C = With tiller arm


B = With splashwell


D = With 90° rudder support

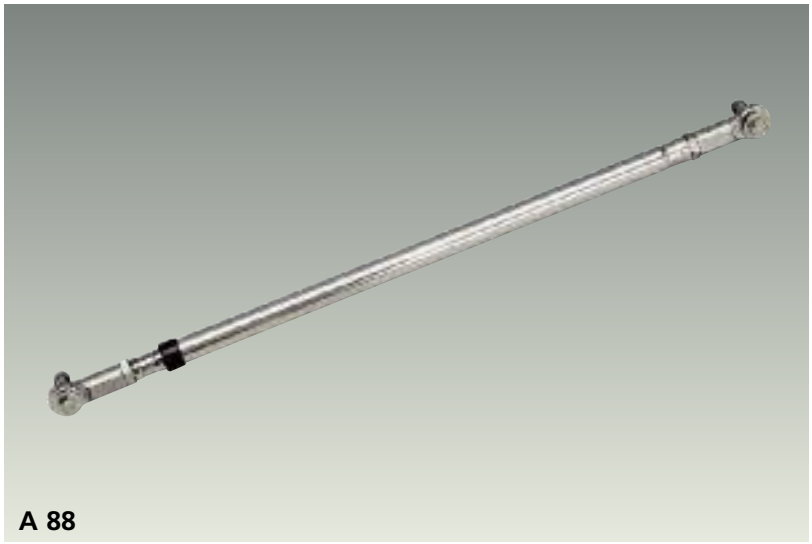
A88 - A92 TIE BARS FOR TWIN OUTBOARD ENGINES

Universal tie bars applicable to twin outboard engines using mechanical steering.
For applications with hydraulic steering systems please refer to the hydraulic steering system section.

A88 - 40128 E

- Adjustable from 650 mm (25.6”) to 950 mm (37.4”) engine centers
- All stainless steel components
- Kit includes all mounting hardware

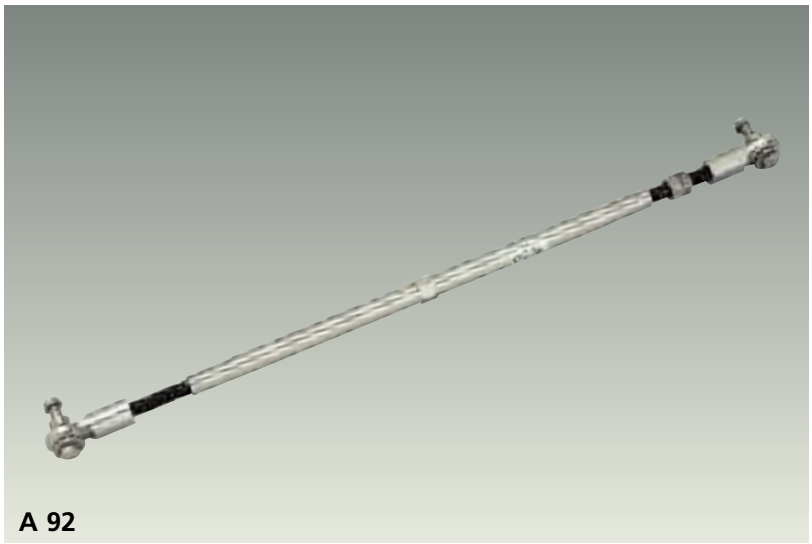
WARNING: On those applications where the clearance between engine tiller arm and cowling is not sufficient fot the use of the **A88**, the **A92** tie bar is recommended



A 88

A92/700 - 40892 V
A92/950 - 40893 X

- Easily adjustable before or after installation
- All stainless steel components
- **A92/700:** Adjustable from 550 mm (21.6”) to 700 mm (27.5”) engine centers
- **A92/950:** Adjustable from 700 mm (27.5”) to 950 mm (37.4”) engine centers



A 92

WIRE TYPE STEERING GROMMETS AND RINGS

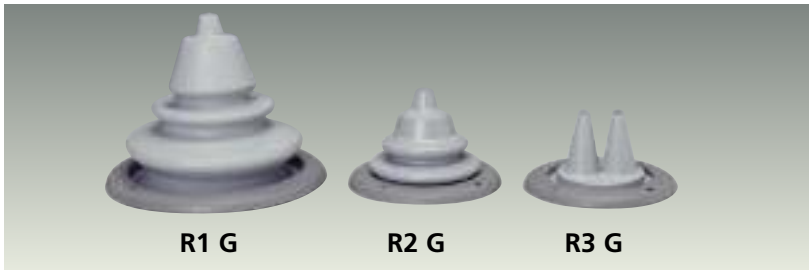
BLACK GROMMETS
R1 B - 38060 I - Ø 152 mm (6”); h 110 mm (4.3”)
R2 B - 38061 J - Ø 105 mm (4.1”); h 65 mm (2.5”)
R3 B - 38062 K - 2 holes Ø 105 mm (4.1”); h 52 mm (2”)
R4 B - 38827 V - Adjustable Ø 105 mm (4.1”); h 68 mm (2.6”)

R1 B R2 B R3 B R4 B

WHITE GROMMETS
R1 W - 38953 A - Ø 152 mm (6”); h 110 mm (4.3”)
R2 W - 38954 C - Ø 105 mm (4.1”); h 65 mm (2.5”)
R3 W - 38955 E - 2 holes Ø 105 mm (4.1”); h 52 mm (2”)
R4 W - 38956 G - Adjustable Ø 105 mm (4.1”); h 68 mm (2.6”)

R1 W R2 W R3 W R4 W

GREY GROMMETS
R1 G - 39279 V - Ø 152 mm (6”); h 110 mm (4.3”)
R2 G - 39280 D - Ø 105 mm (4.1”); h 65 mm (2.5”)
R3 G - 39281 F - 2 holes Ø 105 mm (4.1”); h 52 mm (2”)



R1 G R2 G R3 G

ROTECH

ULTRAFLEX ROTARY STEERING SYSTEM PACKAGED IN A BOX

A convenient kit form, especially suitable as replacement steering, that includes helm, bezel and cable.
The cable is available in 1-ft increments from 8 to 20 feet (specify cable length when ordering)

The wheel is not included

ROTECH - I

T71FC - helm
X34 - 90° bezel
M66 - steering cable

ROTECH - III

T73NRFC® - non-reversible helm
X34 - 90° bezel
M66 - steering cable

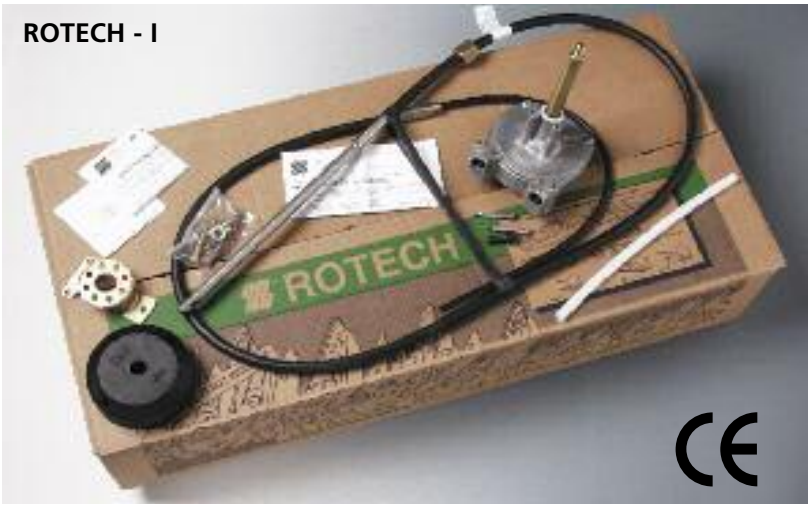
ROTECH - IV

T67 - helm and bezel
M58 - steering cable

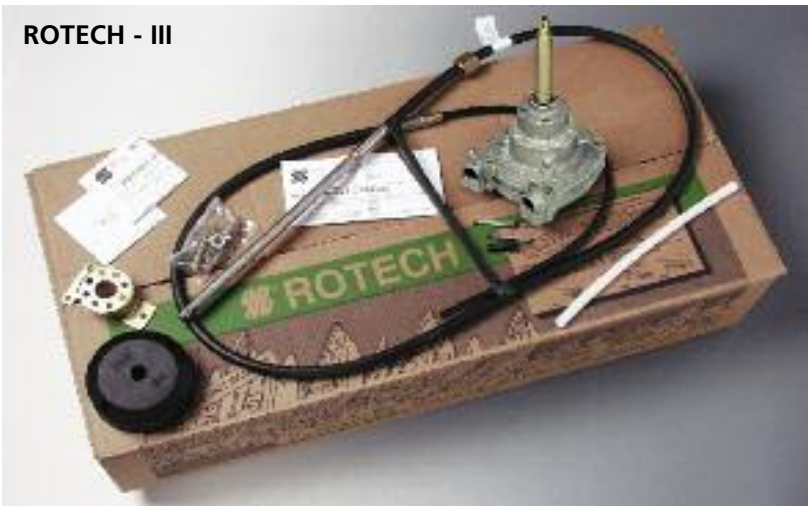
ROTECH - V

T85 - helm and bezel
M66 - steering cable

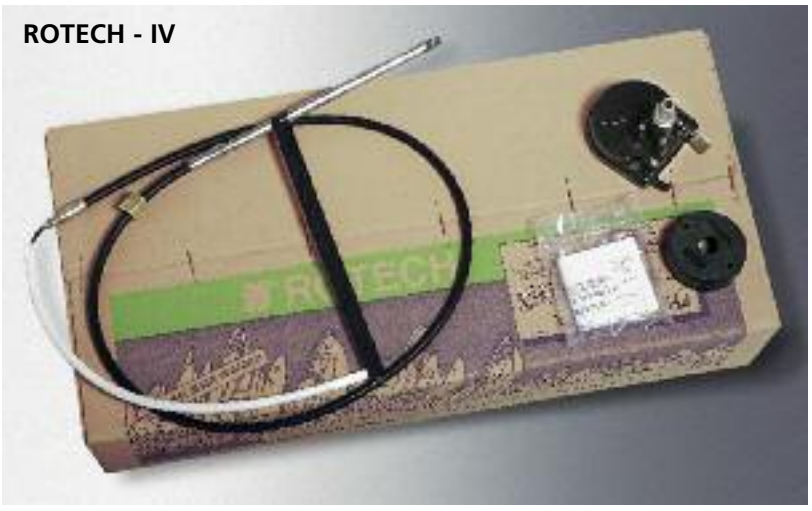
ROTECH - I



ROTECH - III



ROTECH - IV



ROTECH - V

ULTRAFLEX HYDRAULIC STEERING SYSTEMS

All the components of Ultraflex hydraulic steering systems are made specifically for the marine environment, using materials and working process which offer long life and safety for the most extreme conditions.

HOW THE SYSTEM WORKS

A hydraulic steering system consists of a steering pump, a cylinder tied to the rudder or to the outboard or sterndrive engine and the connecting nylon or copper tubing.
Under normal operating conditions, a turn of the steering wheel will send the oil from the helm unit into one of the two connecting hydraulic lines.
The oil will be pumped into one of the chambers of the cylinder and either extend or retract the cylinder rod, depending on the steering wheel rotation.
The fluid going out from the other chamber of the cylinder is returned to the helm via the other hydraulic line.
There are two basic components in all the hydraulic steering systems: the helm unit and the cylinder, connected by nylon or copper tubing.The helm unit consists of both a hydraulic pump and a valve assembly.
The valve assembly prevents outgoing fluid from returning along the same line, isolates each steering station, locks the rudder and eliminates rudder "feedback" to the helm.
The cylinders are double acting and may be balanced or unbalanced (in which case the rod extends through only one end of the cylinder).

SUGGESTIONS AND WARNINGS WHEN SELECTING A HYDRAULIC STEERING SYSTEM

The strength required to drive a boat equipped with a hydraulic steering system is inversely proportional to the number of turns of the wheel lock-to-lock. The wheel turns are determinated by the ratio between the cylinder volume, pump displacement.
With the same type of cylinder installed on the engine, the less are the turns, the faster is the response but higher is the effort; more wheel turns, slower is the response and lower is the effort.

Other factors that can influence steering effort are:
- Vessel speed
- Rudder dimension, or engine power
- Propeller selection
- Hull type (displacement, planing, etc.)
- Sea conditions
- Oil viscosity

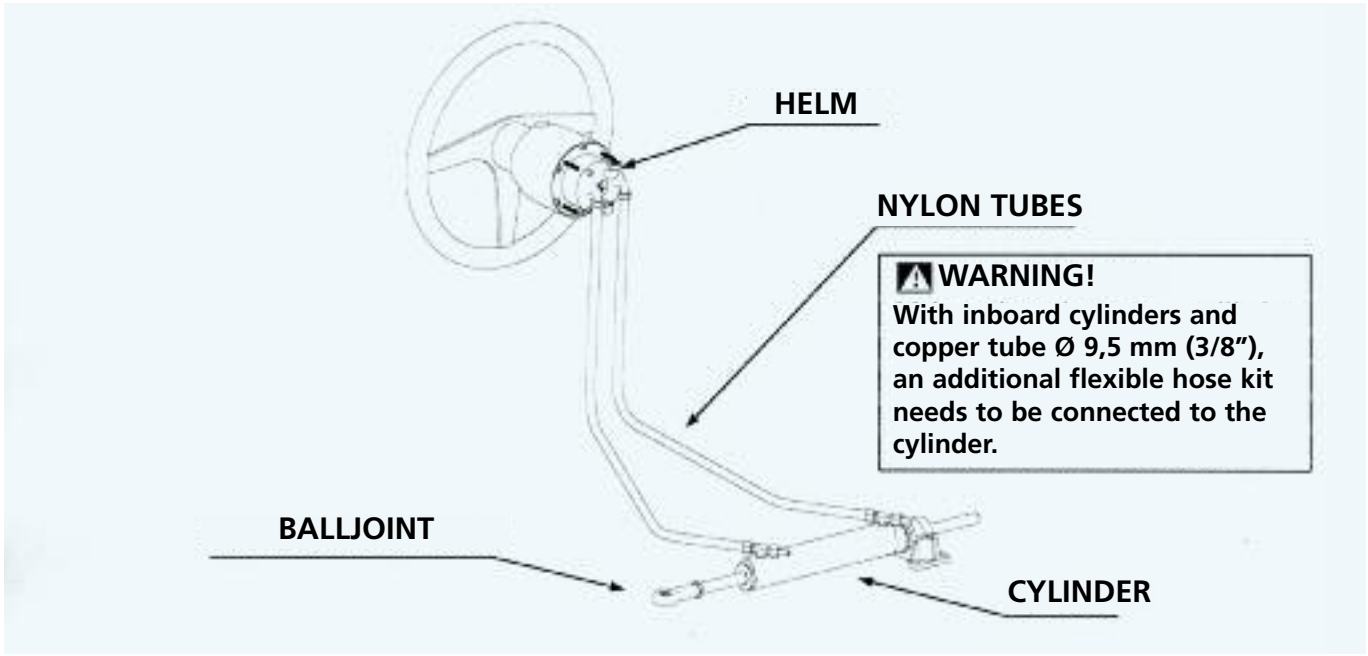
CROSS REFERENCE

The above Cross Reference chart has been drawn to facilitate a functional comparison among brands and should be used as general reference only. For any further information please contact our Technical Service

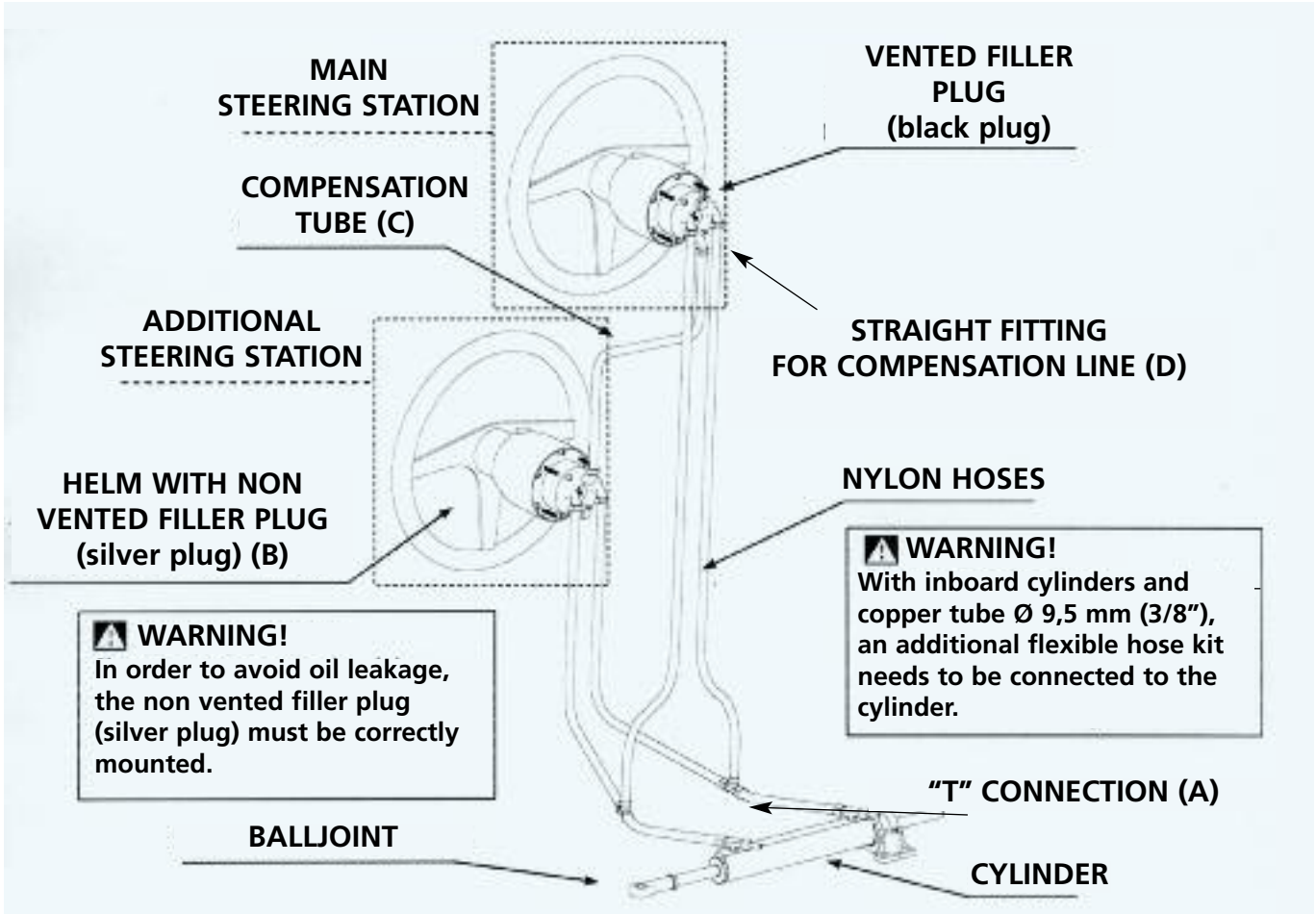
HELM PUMPS	
ULTRAFLEX	TELEFLEX®
UP20 F	BayStar™ HH4314
UP20 T	BayStar™ HH4315
UP25 F	Seastar™ 1.7 HH5269
UP25NV F	Seastar™ 1.7 HH5761
UP25 T	Seastar™ 1.7 HH5744
UP28 F	Seastar™ 1.7 HH5271
UP28 T	Seastar™ 1.7 HH5741
UP 28 R	Seastar™ 1.7 HH5261
UP33 F	Seastar™ 2.0 HH5273
UP33NV F	Seastar™ 2.0 HH5760
UP33 T	Seastar™ 2.0 HH5743
UP33 R	-
UP39 F	Seastar™ 2.4 HH5272
UP39 T	Seastar™ 2.4 HH5742
UP39 R	Seastar™ 2.4 HH5262
UP45 F	-
UP45 T	-
UP45 R	-
UP28 F-SVS	Seastar™ PRO - HH5779
UP28 T-SVS	Seastar™ PRO - HH5773
UP33 F-SVS	Seastar™ PRO - HH5770
UP33 T-SVS	Seastar™ PRO - HH5774
UP39 F-SVS	Seastar™ PRO - HH5772
UP39 T-SVS	Seastar™ PRO - HH6189

CYLINDERS	
ULTRAFLEX	TELEFLEX®
UC94-OBF	Seastar™ HC4645
UC128-OBF	Seastar™ HC5345
UC128-SVS	Seastar™ HC5345
UC68-OBS	-
UC132-OBS	Seastar™ HC5370
UC69-I	-
UC116-1	Seastar™ HC5312
UC168-I	Seastar™ HC5318
UC215-I	Seastar™ HC5319
UC293-I	-
UC378-I	-

SINGLE STEERING STATION INSTALLATION DIAGRAM


HELM
NYLON TUBES
WARNING!
With inboard cylinders and copper tube Ø 9,5 mm (3/8"), an additional flexible hose kit needs to be connected to the cylinder.
BALLJOINT
CYLINDER

DUAL STEERING STATION INSTALLATION DIAGRAM


MAIN STEERING STATION
VENTED FILLER PLUG (black plug)
COMPENSATION TUBE (C)
ADDITIONAL STEERING STATION
STRAIGHT FITTING FOR COMPENSATION LINE (D)
HELM WITH NON VENTED FILLER PLUG (silver plug) (B)
NYLON HOSES
WARNING!
With inboard cylinders and copper tube Ø 9,5 mm (3/8"), an additional flexible hose kit needs to be connected to the cylinder.
WARNING!
In order to avoid oil leakage, the non vented filler plug (silver plug) must be correctly mounted.
"T" CONNECTION (A)
BALLJOINT
CYLINDER

A) 3/8" T fitting	39502 V
B) non vented filler plug	40802 R
C) TU95 - 3/8" nylon tube (1m)	70701 D
D) SF38 - 3/8" straight fitting	39471 L

Kit 95-2S - 39518 L includes 2xA+B+2xD
Kit OB-2S - 39539 V
includes 2xA+B+8mxC+2xD

SUGGESTION AND WARNINGS WHEN SELECTING A HYDRAULIC STEERING SYSTEM

OUTBOARD CYLINDERS Maximum power rating applicable					
Cylinder model	**Single engine single cylinder**	**Double engine single cylinder**		**Double engine double cylinder**	
		NON counter rotating propellers	counter rotating propellers	NON counter rotating propellers	counter rotating propellers
	Max hp power	Max hp power	Max hp power	Max hp power	Max hp power
UC94-OBF	150	not applicable	not applicable	not applicable	not applicable
UC68-OBS	150	not applicable	not applicable	not applicable	not applicable
UC128-OBF	300	300	500	500	600
UC128-SVS	350	350	600	600	700
UC132-OBS	300	300	450	500	600

WARNING: These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician. For any further information please contact our Technical Service

STEERING WHEEL TURNS single cylinder									
	UP20 20cc	**UP25 25cc**	**UP28 28cc**	**UP33 33cc**	**UP 39 39cc**	**UP45 45 cc**	**UP28-SVS 28cc**	**UP33-SVS 33cc**	**UP39-SVS 39cc**
UC94-OBF	4,7	-	-	-	-	-	-	-	-
UC128-OBF	-	4,8	4,3	3,6	3,1	-	-	-	-
UC128-SVS	-	-	-	-	-	-	4,3	3,6	3,1
UC68-OBS	3,4/5,0	-	-	-	-	-	-	-	-
UC132-OBS	-	5,3/6,5	4,7/5,8	4,0/4,9	3,4/4,2	2,9/3,6	-	-	-
UC133-IOB	-	5,6	4,7	4,0	3,4	2,9	-	-	-
UC69-I	3,5	-	-	-	-	-	-	-	-
UC116-I	-	4,6	4,1	3,5	3,0	-	-	-	-
UC168-I	-	6,7	6,0	5,1	4,3	3,7	-	-	-
UC215-I	-	8,6	7,7	6,5	5,5	-	-	-	-
UC293-I	-	-	-	8,9	7,5	6,5	-	-	-
UC378-I	-	-	-	-	9,7	8,4	-	-	-

Suggested

STEERING WHEEL TURNS double cylinder						
	UP28 28cc	**UP33 33cc**	**UP39 39cc**	**UP45 45cc**	**UP33-SVS 33cc**	**UP39-SVS 39cc**
UC128-OBF	-	7,3	6,2	5,3	-	-
UC128-SVS	-	-	-	-	7,3	6,2
UC132-OBS	-	8,0/9,8	6,8/8,4	5,8/7,2	-	-
UC133-IOB	-	8,0	6,8	5,8	-	-
UC116-I	8,2	7,0	6,0	5,2	-	-
UC168-I	-	-	8,6	7,4	-	-
UC215-I	-	-	-	9,5	-	-

Suggested

UP20 F - UP20 T
HELM PUMPS

UP20 F

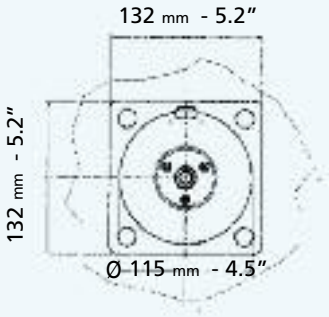
FEATURES

- Built-in lock valve for positive rudder lock
- Integral relief valve for over-pressure protection
- 3/4" tapered anodized aluminun shaft
- Corrosion proof composite housing
- Easy accessible lock valve and shaft seal for replacement
- Includes elbow fittings for 3/8" tube
- For use with UC94-OBF, UC68-OBS and UC69-I cylinders only
- Tilt mechanism **X52** - 39250 U for UP20 T pump
  Tilt range of 48° and five locking positions

  NOTE: X52 tilt mechanism fits standard Ultraflex tilt mount rotary and rack and pinion steering helms as well as standard Ultraflex tilt mount hydraulic pumps. On high performance [redacted] systems use **X70-SVS** tilt mechanism
- **X64** - 40198 C square flange permits to install the UP20F pump in an intermediate dashboard position

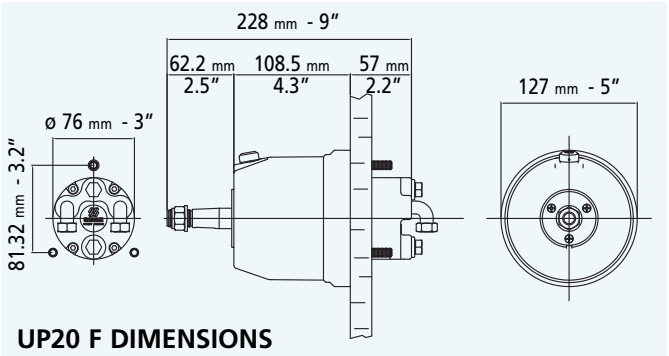
UP20 T + X52

UP20 F + X64

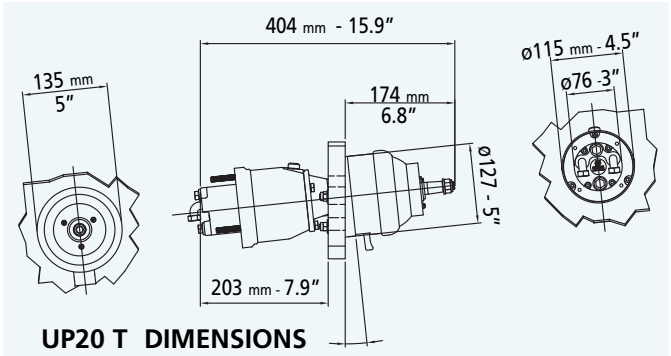


X64

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	No. OF PISTONS	RELIEF VALVE SETTING	MAXIMUM WHEEL DIA.	WEIGHT
UP20 F	**37939 U**	Front mount	20 cc - 1.2 cu. in	5	70 Bar - 1000 PSI	508 mm - 20"	3,6 kg - 8 lbs
UP20 T	**40153 D**	With X52 tilt	20 cc - 1.2 cu. in	5	70 Bar - 1000 PSI	406 mm - 16"	3,9 kg - 8.5 lbs



UP20 F DIMENSIONS



UP20 T DIMENSIONS

UP25 F - UP25NV F
UP28 F - UP33 F - UP33NV F
UP39 F - UP45 F
FRONT MOUNT HELM PUMPS

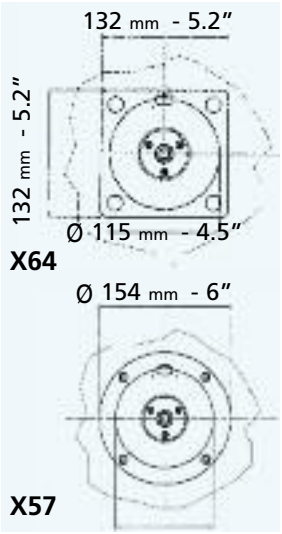
FEATURES

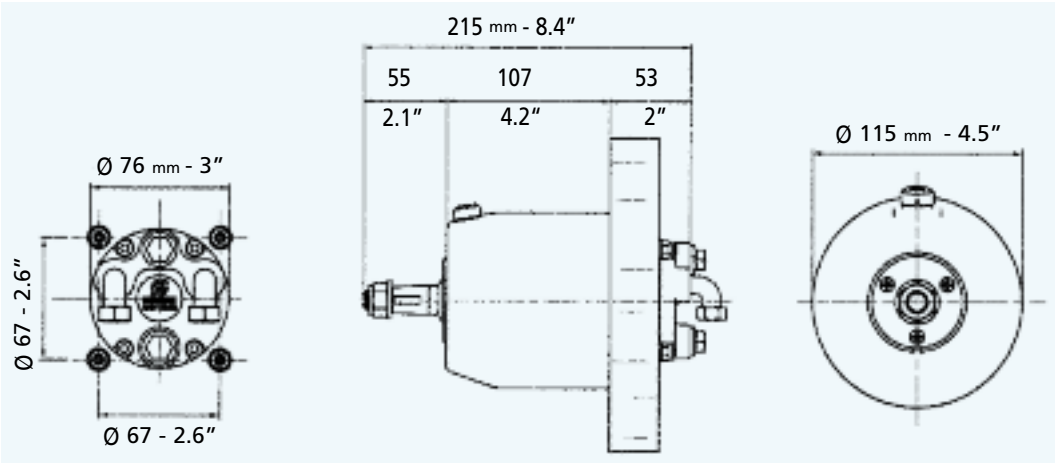
- Available in five different displacement sizes
- UP25F and UP33 F models are also available without built-in lock valve (**UP25NV F** and **UP33NV F** models)
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock (except UP25 NV F and UP33NV F)
- Integral relief valve for over-pressure protection
- 3/4" tapered stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron rotor for greater durability and longer life
- 1/4" NPT fitting for 3/8" tube
- Includes elbow fittings
- **UP45 F** pumps are ideal for double cylinder applications
- **X64** - 40198 C square flange or **X57** - 39464 P round flange permit to install the pumps in an intermediate dashboard position.

UP25 F/28 F/33 F/39 F/45 F + X64

UP25 F/28 F/33 F/39 F/45 F + X57

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	No. OF PISTONS	RELIEF VALVE SETTING	MAXIMUM WHEEL DIA.	WEIGHT
UP25 F	**39618 R**	Front mount	25 cc - 1.5 cu.in	5	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP25NV F	**41273 V**	Front mount	25 cc - 1.5 cu.in	5	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP28 F	**39443 F**	Front mount	28 cc - 1.7 cu.in	5	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP33 F	**39422 X**	Front mount	33 cc - 2.0 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP33NV F	**41275 Z**	Front mount	33 cc - 2.0 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP39 F	**39415 A**	Front mount	39 cc - 2.4 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP45 F	**41276 B**	Front mount	45 cc - 2.7 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs





UP25 F, UP25NV F, UP28 F, UP33 F, UP33NV F, UP39 F, UP45 F DIMENSIONS

UP25 T - UP28 T - UP33 T
UP39 T - UP45 T
TILT MOUNT HELM PUMPS

FEATURES

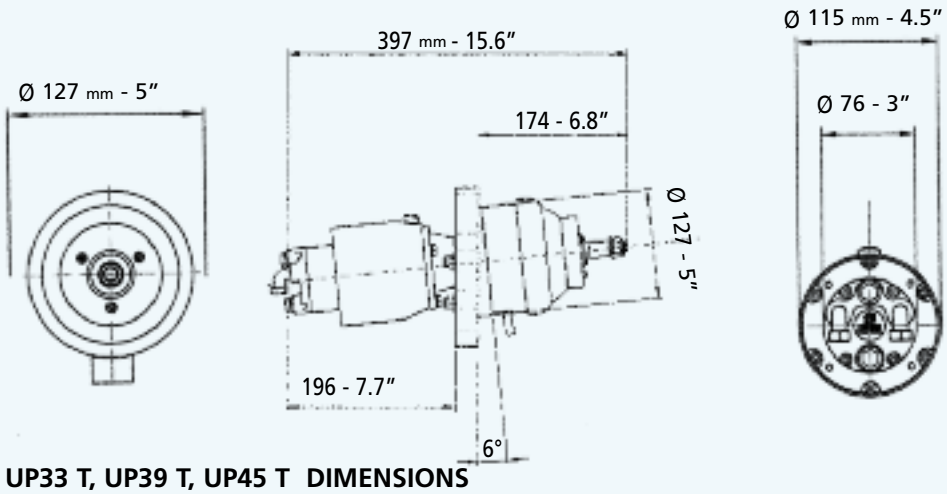
- Available in five different displacement sizes
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock
- Integral relief valve for over-pressure protection
- Stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron rotor for greater durability and longer life
- 1/4" NPT fitting for 3/8" tube
- Includes elbow fittings
- **UP45 T** pumps are ideal for dual cylinder, dual engine applications
- Tilt mechanism:
  X52 - 39250 U
  Tilt range of 48° and five locking positions

  NOTE: X52 tilt mechanism fits standard Ultraflex tilt mount rotary and rack and pinion steering helms as well as standard Ultraflex tilt mount hydraulic pumps. On high performance SVS systems use **X70-SVS** tilt mechanism

- **KIT F** (optional) - 39664 Y Remote fill adapter

X52

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	No. OF PISTONS	RELIEF VALVE SETTING	MAXIMUM WHEEL DIA.	WEIGHT
UP25 T	**40803 T**	With X52 tilt	25 cc - 1.5 cu.in	5	70 Bar - 1000 PSI	406 mm - 16"	5 kg - 11 lbs
UP28 T	**39445 K**	With X52 tilt	28 cc - 1.7 cu.in	5	70 Bar - 1000 PSI	406 mm - 16"	5 kg - 11 lbs
UP33 T	**39446 M**	With X52 tilt	33 cc - 2.0 cu.in	7	70 Bar - 1000 PSI	406 mm - 16"	5 kg - 11 lbs
UP39 T	**39447 P**	With X52 tilt	39 cc - 2.4 cu.in	7	70 Bar - 1000 PSI	406 mm - 16"	5 kg - 11 lbs
UP45 T	**41277 D**	With X52 tilt	45 cc - 2.7 cu.in	7	70 Bar - 1000 PSI	406 mm - 16"	5 kg - 11 lbs



UP25 T, UP28 T, UP33 T, UP39 T, UP45 T DIMENSIONS

UP28 R - UP33 R - UP39 R
UP45 R - UP45-I R
REAR MOUNT
HELM PUMPS

FEATURES

- Available in four different displacement sizes
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock
- Integral relief valve for over-pressure protection
- 3/4" tapered stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron cylinder rotor for greater durability and longer life
- 1/4" NPT fitting for 3/8" tube except UP45-I R (1/4" NPT straight fitting for 12 mm tube)
- Complete with elbow fittings and white bezel

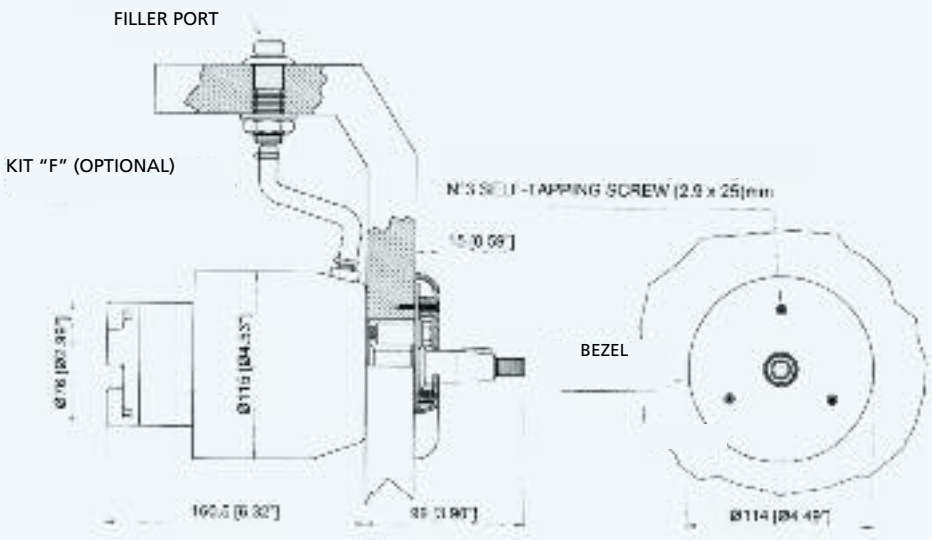
Note: It is possible to transform the UP45 R pump (41278 F) in UP45-I R pump (41279 H) odering the kit **KIT SF12** (41907 L) that includes 2 straight fittings for 12 mm tube

- **UP45 R** pumps are ideal for double cylinder applications
- **X68** (optional) - 40894 Z Chrome bezel
- **KIT F** (optional) - 39664 Y Remote fill adapter

KIT F

X68

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	No. OF PISTONS	RELIEF VALVE SETTING	MAXIMUM WHEEL DIA.	WEIGHT
UP28 R	**39970 F**	Rear mount	28 cc - 1.7 cu.in	5	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP33 R	**39969 X**	Rear mount	33 cc - 2.0 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP39 R	**39444 H**	Rear mount	39 cc - 2.4 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP45 R	**41278 F**	Rear mount	45 cc - 2.7 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs
UP45-I R	**41279 H**	Rear mount	45 cc - 2.7 cu.in	7	70 Bar - 1000 PSI	710 mm - 28"	5 kg - 11 lbs



UP28 R, UP33 R, UP39 R, UP45 R, UP45-I R DIMENSIONS

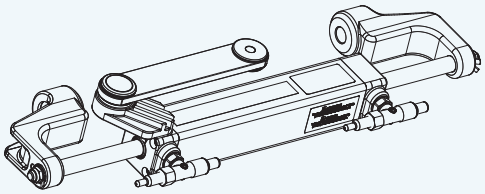
UC94-OBF FRONT MOUNT CYLINDER FOR OUTBOARD ENGINES UP TO 150 HP TOTAL

UC94-OBF - Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa

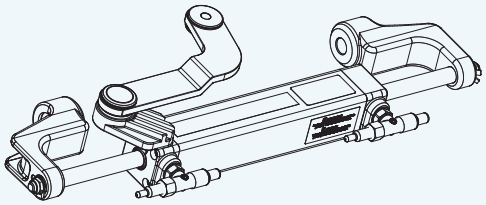
Adjustable boss style fittings for easy installation
High resistance stainless steel connection bolt (ULTRABOLT)

INNOVATIVE DESIGN (PATENTED):
Split and pinned cylinder mounting rod for easy installation and bushings to prevent friction with engine tilt tube.

Depending on the applications on the outboard engines, the UC94-OBF cylinder is available in 2 versions:

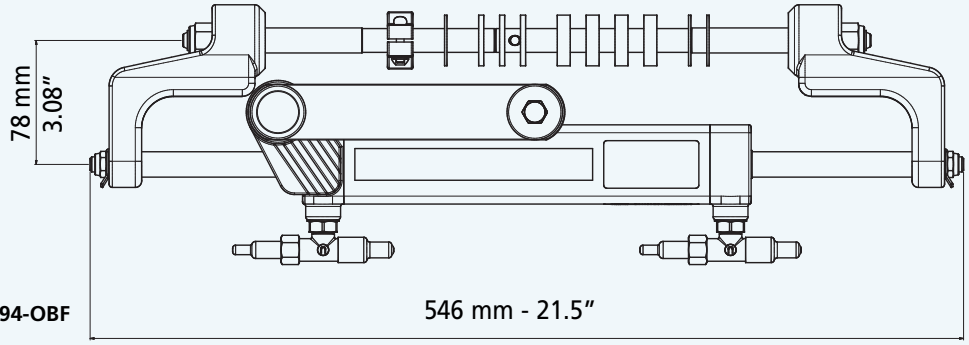


UC94-OBF/1 **40154 F**

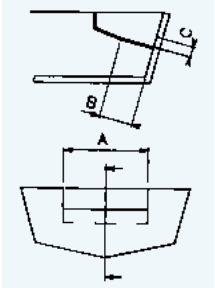


UC94-OBF/3 **40161 C**

SPECIFICATIONS	UC94-OBF/1 -/3
Volume	94 cc - 5.7 cu. in
Output force	278 kg - 613 lbs
Inside diameter	30 mm - 1.18”
Stroke	186 mm - 7.3”
3/8” (9.5mm) Fittings	For high pressure flex hose
Bleed fittings	DN5 Quick connect



UC94-OBF



SPLASHWELL DIMENSION REQUIREMENTS			
Engine No.	**A**	**B**	**C**
1	540 mm - 21.25”	152 mm - 5.98”	152 mm - 5.98”
2	1110 mm - 43.70”	152 mm - 5.98”	152 mm - 5.98”

For twin engine applications, the minimum distance between the two engine centers is 21.6” (550 mm)

UC94-OBF CYLINDER APPLICATIONS

WARNING
The UC94-OBF front mount cylinder is recommended for use with outboard engines 150 hp total and less and where the boat speed does not exceed 40 mph (40 knots)

Not intended for use in racing application

WARNING
These recommendations should be used as a general reference only. For any further information please contact our Technical Service.

ENGINE	POWER	YEAR	CYLINDER	P. No.
Mercury® Mariner®	50 – 75 – 90 2 Stroke	1990-2008	UC94-OBF/1	40154 F
	115 – 125 – 150 EFI 2 Stroke	1990-2007	UC94-OBF/1	40154 F
	75 – 90 – 115 - 125 Optimax 2 Stroke	2004-to date	UC94-OBF/3	40161 C
	135 – 150 Optimax 2 Stroke	1999-to date	UC94-OBF/1	40154 F
	40 – 50 – 60 EFI 4 Stroke	2004-to date	UC94-OBF/1	40154 F
	75 – 80 – 90 EFI 4 Stroke	2000-to date	UC94-OBF/1	40154 F
	100 – 115 EFI 4 Stroke	2007-to date	UC94-OBF/1	40154 F
Evinrude®	E40-E50-E55-E60 2 Stroke	2004-to date	UC94-OBF/1	40154 F
	E75-E90 2 Stroke	2004-to date	UC94-OBF/1	40154 F
	E115-E130-E135 2 Stroke V4	1995-to date	UC94-OBF/1	40154 F
	E150 2 Stroke V6	1995-to date	UC94-OBF/1	40154 F
Yamaha®	60-70 2 Stroke	1984-2008	UC94-OBF/1	40154 F
	75C-90 2 Stroke	1998-2008	UC94-OBF/1	40154 F
	115C-130B 2 Stroke	1990-2008	UC94-OBF/1	40154 F
	150F	1996-2007	UC94-OBF/1	40154 F
	150 HPDI VMAX 2 Stroke	2000-2008	UC94-OBF/1	40154 F
	F60-F75-F80 EFI 4 Stroke	1999-2007	UC94-OBF/1	40154 F
	F90-F100-F115-F150 EFI 4 Stroke	1999-2007	UC94-OBF/1	40154 F
	F80-F100 4 Stroke	2000-to date	UC94-OBF/1	40154 F
	F115-F150	2004-to date	UC94-OBF/1	40154 F
Honda®	BF75-BF90 4 Stroke	1995-to date	UC94-OBF/1	40154 F
	BF115D	1998-2009	UC94-OBF/3	40161C
	BF115A	2009-to date	UC94-OBF/1	40154 F
	BF130A	1998-2005	UC94-OBF/3	40161C
	BF135-BF150 4 Stroke	2005-to date	UC94-OBF/1	40154 F
	BF90-BF150 V-TEC 4 Stroke	2008-to date	UC94-OBF/1	40154 F
Suzuki®	DF70-80-90 4 Stroke	1998-to date	UC94-OBF/1	40154 F
	DF100-115-140 4 Stroke*	1998-2008	UC94-OBF/1*	40154 F
	DF100-115-140 4 Stroke new model	2008-to date	UC94-OBF/1	40154 F
	DF150 4 Stroke	2006-to date	UC94-OBF/1	40154 F
Tohatsu® Nissan®	50-60-70-90 2 Stroke	2004-to date	UC94-OBF/1	40154 F
	115-120-140 2 Stroke	2004-to date	UC94-OBF/1	40154 F
	40-50TLDI 4 Stroke	2004-to date	UC94-OBF/1	40154 F
	70-90-115 TLDI 4 Stroke	2004-to date	UC94-OBF/1	40154 F
Selva®	50 Madeira/ Bull shark-60 Grey Shark/St.tropez- 70 Mako Shark 2 Stroke		UC94-OBF/1	40154 F
	80 Portofino/Tigershark 2 Stroke	1995-2008	UC94-OBF/1	40154 F
	150 White Shark 2 Stroke	2001-2007	UC94-OBF/1	40154 F
	50-60 Dorado EFI 4 Stroke		UC94-OBF/1	40154 F
	100 EFI Marlin -115 EFI Narwhal-150EFI Killer Whale 4 Stroke	2000-to date	UC94-OBF/1	40154 F
Johnson®	BJ60-70 4 Stroke	2001-2007	UC94-OBF/1	40154 F
	BJ90-115-140 4 Stroke	2001-2007	UC94-OBF/1	40154 F
	J90-115 V4 2 Stroke	1995-2007	UC94-OBF/1	40154 F

***NOTE:**
Suzuki® engines built from 1998 to 2008 installing UC94-OBF/1 cylinder require optional **KIT SU** - 41954W.

UC94-OBF/1 on SUZUKI® 150 HP

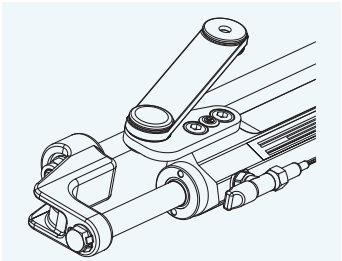
UC94-OBF/1 on HONDA® 150 HP

UC128-OBF FRONT MOUNT CYLINDER

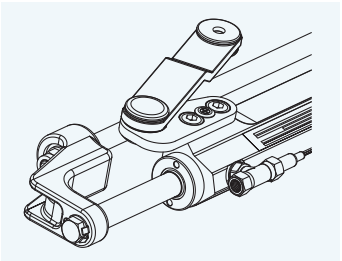
UC128-OBF - Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa

Adjustable boss style fittings for easy installation
High resistence stainless steel connection bolt (ULTRABOLT)

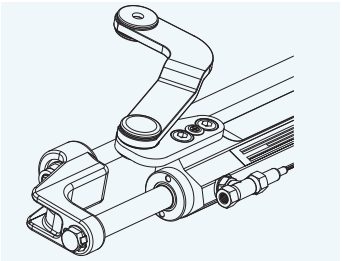
The UC128 cylinder is built to last with heavy duty stainless steel cylinder rod, seals and link assemblies. Constructed of top grade materials, this cylinder is simple to install and fits almost every 2 and 4 stroke outboard engine in the market. See the application guide next page to choose the appropriate cylinder (UC128-OBF/1, UC128-OBF/2 or UC128-OBF/3) for your application. The UC128 cylinders are recommended for use with UP25, UP28, UP33 and UP39 series helms and preassembled hoses (Kit OB and Kit OB/R5).
Depending on the applications on the outboard engines, the UC128-OBF is available in 3 versions:



UC128-OBF/1 **39423 Z**



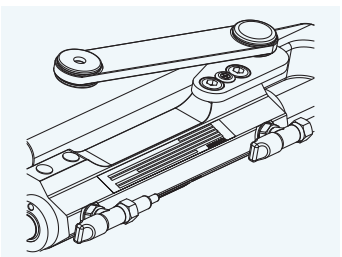
UC128-OBF/2 **39966 R**



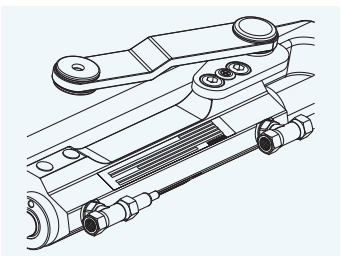
UC128-OBF/3 **39967 T**

In the applications with dual UC128-OBF cylinder it is necessary to order a standard UC128-OBF cylinder (link arm attached to the starboard side of the cylinder) and a port UC128P-OBF cylinder (link arm attached to the port side of the cylinder). See appropriate section for A90 tie bar, required for dual engine/dual cylinder applications.
Depending on the applications on the outboard engines, the UC128P-OBF port cylinder is available in 2 versions:

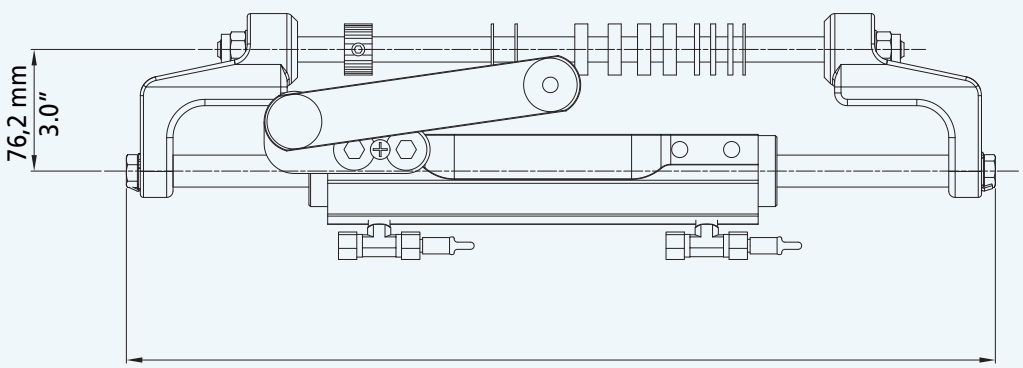
UC128P-OBF



UC128P-OBF/1 **40106 U**

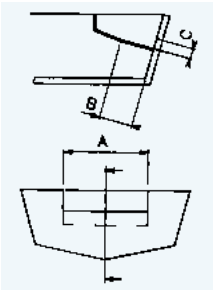


UC128P-OBF/2 **40107 W**



UC128-OBF DIMENSIONS 544 mm - 21.43"

SPECIFICATIONS	UC128-OBF/1 -/2 -/3
Volume	120 cc - 7.3 cu. in
Output force	450 kg - 992 lbs
Inside diameter	35 mm - 1.37”
Stroke	185 mm - 7.28”
3/8” (9.5mm) Fittings	For high pressure flex hose
Bleed fittings	DN5 Quick connect



SPLASHWELL DIMENSION REQUIREMENTS

Engine No.	A	B	C
1	560 mm - 22.05”	152 mm - 5.98”	152 mm - 5.98”
2	1110 mm - 43.70”	152 mm - 5.98”	152 mm - 5.98”

For twin engine applications minimum engine center distance is 550 mm (21.6”)

LA1, LA2, LA3 link arm kits for UC128-OBF standard cylinder and LA1P, LA2P link arm kits for UC128P-OBF port cylinder can also be supplied separately for the first application only, in case the UC128-OBF cylinder needs to be adapted to the already installed outboard engine (see application guide).

“STANDARD” LINK ARMS:

LA1 **40045 A**
for UC128-OBF/1

LA2 **40046 C**
for UC128-OBF/2

LA3 **40073 F**
for UC128-OBF/3

“PORT” LINK ARMS:

LA1P **40104 P**
for UC128P-OBF/1

LA2P **40105 S**
for UC128P-OBF/2

WARNING: LA1, LA2, LA3 and LA1P, LA2P link arm kits are recommended for use on the first installation **only** and **not** as a retrofit. Installation has to be made by qualified technicians only.
The tightening load to be applied to the screws of the link arm kit is recommended on the Installation Manual and the mounting instructions supplied with the products.

UC128-OBF CYLINDER APPLICATIONS

ENGINE	MODEL	YEAR	CILINDER	P. NO.
Mercury® Mariner®	75-90-115-125 Optimax 2 Stroke	2004-to date	UC128-OBF/3	39967 T
	135-150-175 Optimax 2 Stroke	1999-to date	UC128-OBF/1	39423 Z
	200-225-250 Optimax 2 Stroke	1999-to date	UC128-OBF/1	39423 Z
	RACING 300 Optimax 2 Stroke		UC128-OBF/1	39423 Z
	100-115 EFI 4 Stroke	2007-to date	UC128-OBF/1	39423 Z
	115-125-150 EFI 2 Stroke	1990-2007	UC128-OBF/1	39423 Z
	225-250 EFI 2 Stroke	2000-2007	UC128-OBF/1	39423 Z
	250 Saltwater EFI 4 Stroke	2007-to date	UC128-OBF/1	39423 Z
	135-150-175-200 Verado L4 4 Stroke	2004-2006	UC128-OBF/1	39423 Z
Evinrude®	E75-E90 2 Stroke	2004-to date	UC128-OBF/2	39966 R
	E115-E130-E135 2 Stroke V4	1995-to date	UC128-OBF/2	39966 R
	E150-E175-E200 2 Stroke V6	1995-to date	UC128-OBF/2	39966 R
	E200 HO- E225-E250 2 Stroke V6	1995-to date	UC128-OBF/2	39966 R
	E250 HO- E300 2 Stroke V6		UC128-OBF/2	39966 R
Yamaha®	75C-90 2 Stroke	1998-2008	UC128-OBF/2	39966 R
	115C-130B 2 Stroke	1990-2008	UC128-OBF/2	39966 R
	150F-200F-250G 2 Stroke	1996-2007	UC128-OBF/2	39966 R
	150 HPDI VMAX 2 Stroke	2000-2008	UC128-OBF/2	39966 R
	175-200-225-250-300 HPDI VMAX 2 Stroke	2000-2008	UC128-OBF/2	39966 R
	F70 4 Stroke	2010-to date	UC128P-OBF/1	40106U
	F90-F100-F115-F150 EFI 4 Stroke	1999-2007	UC128-OBF/1	39423 Z
	F200-F225-F250 4 Stroke	2002-2007	UC128-OBF/2	39966 R
	F115-F150	2004-to date	UC128-OBF/1	39423 Z
	F200-F225-F250-F300 4 Stroke	2006-to date	UC128-OBF/2	39966 R
	F350 4 Stroke	2008-to date	see UC128-SVS	SilverSteer
Honda®	BF75-90 4 Stroke	1995-to date	UC128-OBF/1	39423 Z
	BF115D	1998-2009	UC128-OBF/3	39967 T
	BF115A	2009-to date	UC128-OBF/1	39423 Z
	BF130A	1998-2005	UC128-OBF/3	39967 T
	BF135-150 4 Stroke	2005-to date	UC128-OBF/1	39423 Z
	BF90-BF150 V-TEC 4 Stroke	2008-to date	UC128-OBF/1	39423 Z
	BF175-200-225 4 Stroke	2001-to date	UC128-OBF/1	39423 Z
Suzuki®	DF70-80-90 4 Stroke	1998-to date	UC128-OBF/2	39966 R
	DF100-115-140 4 Stroke*	1998-2008	UC128-OBF/1*	39423 Z
	DF100-115-140 4 Stroke new model	2008-to date	UC128-OBF/1	39423 Z
	DF150-175 4 Stroke	2006-to date	UC128-OBF/1	39423 Z
	DF200-DF225-DF250-DF300		UC128-OBF/2	39966 R
Tohatsu®	115-120-140 2 Stroke	2004-to date	UC128-OBF/2	39966 R
	70-90-115 TLDI 4 Stroke	2004-to date	UC128-OBF/1	39423 Z
Selva®	80 Portofino/Tigershark 2 Stroke	1995-to date	UC128-OBF/1	39423 Z
	150 White Shark 2 Stroke			
	100EFI Marlin -115 EFI Narwhal-	2001-2007	UC128-OBF/2	39966 R
	150EFI Killer Whale 4 Stroke	2000-to date	UC128-OBF/1	39423 Z
Johnson®	BJ90-115-140 4 Stroke	2001-2007	UC128-OBF/1	39423 Z
	J90-115 V4 2 Stroke	1995-2007	UC128-OBF/2	39966 R
	J150-175 V6 2 Stroke	1995-2007	UC128-OBF/2	39966 R
	J200-225 V6 4 Stroke	2004-2007	UC128-OBF/2	39966 R

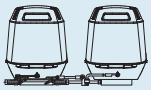
WARNING
These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician.
For any further information please contact our Technical Service.

***NOTE:**
Suzuki® engines built from 1998 to 2008 installing UC128-OBF/1 cylinder require optional **KIT SU** - 41954W.

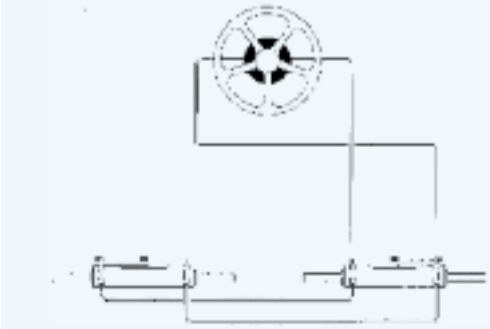
For higher horsepower applications, high performance SilverSteer™ cylinder is recommended.

UC128-OBF CYLINDER

ORDER GUIDE:

SYSTEM	APPLICATION	WHEEL TURNS	COMPONENTS	MODEL	QTY
Single engine Single cylinder	Up to 300 hp max	4,8 (UP25) 4,3 (UP28)	Cylinder Helm pump Hose Kit Oil Steering wheel	UC128-OBF UP25 or UP28 KIT OB OIL 15 (Wheel selection)	1 1 1 2 1
For a second station add: **1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel**					
Dual engine Single cylinder 	Up to 300 hp max (non-counter rotating engine) Up to 500 hp max (counter rotating engine)	4,8 (UP25) 4,3 (UP28)	Cylinder Helm pump Hose Kit Oil Tie bar Steering wheel	UC128-OBF UP25 or UP28 KIT OB OIL 15 A94 (Wheel selection)	1 1 1 2 1 1
For a second station add: **1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel**					
Dual engine Dual cylinder	Up to 500 hp max (non-counter rotating engines) Up to 600 hp max (counter rotating engines)	6,1 (UP39) 5,3 (UP45)	Cylinder Cylinder Port Helm pump Hose Kit Oil Tie bar Steering wheel Connection Kit	UC128-OBF UC128P-OBF UP39 or UP45 KIT OB OIL 15 A90 (Wheel selection) KIT OB-2C	1 1 1 2 3 1 1 1
For a second station add: **1 UP39 or UP45 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 2 T fittings 39502 V, 1 OIL 15, 1 steering wheel**					

WARNING
The UC128-OBF front mount cylinder is not recommended for use in installations where the boat speed exceeds **50 mph (50 knots)** (60 mph (60 knots) in dual engine, dual cylinder and counter rotating engines application).
Not intended for use in racing application.



Dual engine dual cylinder application diagram

NOTE:
For high performance applications SilverSteer™ systems are recommended.

NOTE:
Three outboard engine applications are available with UC128-OBF cylinder. For any further and detailed information, please contact our Technical Service.

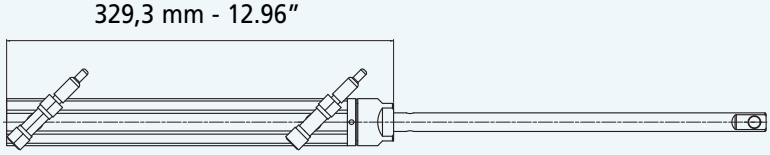
For triple outboard engine, dual cylinder applications, please refer to tie-bar section.

UC68-OBS SIDE MOUNT CYLINDER FOR OUTBOARD ENGINES UP TO 150 HP TOTAL

UC68-OBS - Unbalanced: the number of turns lock-to-lock is not equal port to starboard and vice-versa.

WARNING
Recommended for use where max boat speed do not exceed **40 mph (40 knots)**

SPECIFICATIONS	UC68-OBS - 39784 J
Volume	68/100 cc - 4.1/6.1 cu. in
Output force	185/270 kg - 408/595 lbs
Inside diameter	25 mm - 0.98"
Stroke	203 mm - 8"
3/8" (9.5mm) Fittings	For high pressure flex hose



UC68-OBS

UC68-OBS side mount cylinder features a turning nut for a fast and easy installation to the engine tube (PATENTED)

Clearance required at the engine tube side: 13.3" (340 mm)

ORDER GUIDE:

SYSTEM	APPLICATION	WHEEL TURNS	COMPONENTS	MODEL	QTY
Single engine Single cylinder	Up to 150 hp max	3,4/5	Cylinder Helm pump Hose Kit Oil Steering wheel	UC68-OBS UP20 KIT OB OIL 15 (Wheel selection)	1 1 1 2 1

UC68-OBS cylinder is also available in kit:

HYCO-OBS WHEEL TURNS 3,4/5

For outboard engines up to 150 hp

HYCO–OBS package kit contains:

UP20 F Front mount helm pump.
UC68-OBS Side mount outboard cylinder.
OIL 15 Hydraulic oil – 2 litres.
KIT OB Hose kit with preassembled fittings - Specify length required when ordering.

HYCO-OBF not including KIT OB flexible hoses is available on request.
The wheel is not included.

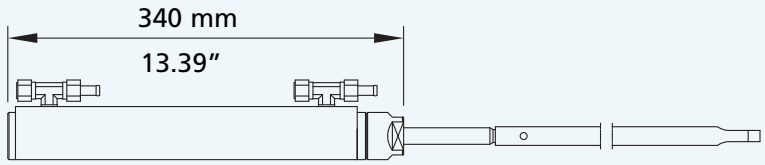
HYCO-OBS

UC132-OBS SIDE MOUNT CYLINDER

UC132-OBS
Unbalanced: the number of turns lock-to-lock is not equal port to starboard and vice-versa

WARNING
UC132-OBS cylinder is not intended for use with 105 Bar (1500 psi) SilverSteer Series Helms

SPECIFICATIONS	**UC132-OBS** - 39430 W
Volume	132 / 163 cc - 8 / 9.95 cu. in
Output force	464 / 574 kg - 1023 / 1265 lbs
Inside diameter	32 mm - 1.25”
Stroke	203 mm - 8”
3/8” (9,5 mm) fittings	For high pressure flex hose



UC132-OBS DIMENSIONS

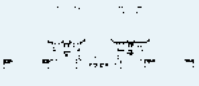
UC132-OBS side mount cylinder features a turning nut for a fast and easy installation to the engine tube (PATENTED)

Clearence required at the engine tube side: 375 mm (14.76”)

ORDER GUIDE:

WARNING
The UC132-OBS is not recommended for use in installations where the boat speed exceeds **45 mph (45 knots)** and the power exceeds max Coast Guard recommendation for the boat.

Not intended for use in racing application.

SYSTEM	APPLICATION	WHEEL TURNS	COMPONENTS	MODEL	QTY
Single engine Single cylinder	Up to 300 hp max	5,3/6,5 (UP25) 4,7/5,8 (UP28)	Cylinder Helm pump Hose Kit Oil Steering wheel	UC132-OBS UP25 or UP28 KIT OB OIL 15 (Wheel selection)	1 1 1 2 1
For a second station add: **1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel**					
Dual engine Single cylinder	Up to 300 hp max (non-counter rotating engine) Up to 450 hp max (counter rotating engine)	5,3/6,5 (UP25) 4,7/5,8 (UP28)	Cylinder Helm pump Hose Kit Oil Tie bar Steering wheel	UC132-OBS UP25 or UP28 KIT OB OIL 15 A88 or A92 (Wheel selection)	1 1 1 2 1 1
For a second station add: **1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 1 OIL 15, 1 steering wheel**					
Dual engine Dual cylinder 	Up to 500 hp max (non-counter rotating engines) Up to 600 hp max (counter rotating engines)	6,7/8,3 (UP39) 5,8/7,3 (UP45)	Cylinder Helm pump Hose Kit Oil Tie bar Steering wheel Connection Kit	UC132-OBS UP39 or UP45 KIT OB OIL 15 A88 or A92 (Wheel selection) KIT OB-2C	2 1 2 3 1 1 1

For a second station add:
1 UP39 or UP45 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB, 2 T fittings 39502 V, 1 OIL 15, 1 steering wheel

WARNING: THIS APPLICATION REQUIRES THAT THE THREADS ON THE TILT TUBE EXTEND AT LEAST 15 mm (0.6”) FROM BOTH SIDES.

HIGH PRESSURE FLEXIBLE HOSES

KIT OB

KIT OB: HOSE KIT FOR SINGLE STATION INSTALLATION

Two high pressure flexible hoses with pre-crimped brass fittings and bend restrictors on both ends. Recommended for use with all Ultraflex standard helms with 70 Bar (1000 psi) relief valves.
Available lengths: from 3,00 m (9.8 ft) to 9,00 m (29.5 ft) with 0,5 m (1.6 ft) increments.

KIT OB/R5

KIT OB/R5: HOSE KIT FOR SINGLE STATION INSTALLATION

Two high pressure flexible hoses with pre-crimped brass fittings, R5 bulkhead fittings and bend restrictors on both ends. Recommended for use with all Ultraflex standard helms with 70 Bar (1000 psi) relief valves.
Available lengths: from 3,00 m (9.8 ft) to 9,00 m (29.5 ft) with 0,5 m (1.6 ft) increments.

KIT OB	LENGTH	P. No.
KIT OB-30	3,00 m - 9.8 ft	40852 G
KIT OB-35	3,50 m - 11.5 ft	40853 J
KIT OB-40	4,00 m - 13.2 ft	40752 C
KIT OB-45	4,50 m - 14.8 ft	40753 E
KIT OB-50	5,00 m - 16.4 ft	40754 G
KIT OB-55	5,50 m - 18.0 ft	40755 J
KIT OB-60	6,00 m - 19.7 ft	40749 P
KIT OB-65	6,50 m - 21.3 ft	40648 H
KIT OB-70	7,00 m - 22.9 ft	40796 Z
KIT OB-75	7,50 m - 24.6 ft	40854 L
KIT OB-80	8,00 m - 26.3 ft	40855 N
KIT OB-85	8,50 m - 27.8 ft	40856 R
KIT OB-90	9,00 m - 29.5 ft	40857 T

KIT OB/R5	LENGTH	P. No.
KIT OB/R5-30	3,00 m - 9.8 ft	40835 G
KIT OB/R5-35	3,50 m - 11.5 ft	40836 J
KIT OB/R5-40	4,00 m - 13.2 ft	40837 L
KIT OB/R5-45	4,50 m - 14.8 ft	40838 N
KIT OB/R5-50	5,00 m - 16.4 ft	40839 R
KIT OB/R5-55	5,50 m - 18.0 ft	40840 Z
KIT OB/R5-60	6,00 m - 19.7 ft	40841 B
KIT OB/R5-65	6,50 m - 21.3 ft	40842 D
KIT OB/R5-70	7,00 m - 22.9 ft	40843 F
KIT OB/R5-75	7,50 m - 24.6 ft	40844 H
KIT OB/R5-80	8,00 m - 26.3 ft	40845 K
KIT OB/R5-85	8,50 m - 27.8 ft	40846 M
KIT OB/R5-90	9,00 m - 29.5 ft	40847 P

KIT OB/M: HOSE KIT WITH PREASSEMBLED FITTINGS AT ONE END SINGLE STATION APPLICATION

It consist of a pair of ligh pressure flexible hose with fittings featuring turning nuts preassembled at one end only.
It is supplied with 2 non assembled fittings and 2 reinforcing sleeves.
Available on 6 m (1.8'') and 9 m (2.7') standard lenghts that can be cut to fit the desired application.

KIT OB/M

KIT OB/M	LENGTH	P. No.
KIT OB/M-60	6,00 m - 19.7 ft	41708 E
KIT OB/M-90	9,00 m - 29.5 ft	41709 G

KIT OB-2C: DUAL CYLINDER/DUAL ENGINE CONNECTION KIT

Two high pressure flexible hoses with pre-crimped fittings and bend restrictors.
Not recommended for use with SilverSteer™ Series cylinders.
Three lengths available: 70 cm , 90 cm, 120 cm

KIT OB-2C

KIT OB-2C	LENGTH	P. No.
KIT OB-2C-07	0,7 m - 2.30 ft	41149 U
KIT OB-2C-09	0,9 m - 2.95 ft	40680 D
KIT OB-2C-12	1,20 m - 3.95 ft	40686 S

PACKAGED OUTBOARD HYDRAULIC STEERING SYSTEMS

HYCO-OBF WHEEL TURNS 4,7

For outboard engines up to 150 hp

HYCO–OBF package kit contains:

UP20 F	Front mount helm pump.
UC94-OBF	Front mount outboard cylinder *Specify engine type when ordering.*
OIL 15	Hydraulic oil - 2 litres.
KIT OB	Hose kit with preassembled fittings. *Specify length required when ordering*

HYCO-OBF not including KIT OB flexible hoses is available on request.
The wheel is not included.

WARNING: Depending on the applications, the UC94-OBF is available in 2 versions: UC94-OBF/1 and UC94-OBF/3.
UC94-OBF/1 cylinder is not suitable for HONDA® BF115 and BF130 engines and Mercury® Optimax™ 75, 90, 115. For these engines UC94-OBF/3 is available.

HYCO-OBF

NAUTECH 1 WHEEL TURNS 4,3

NAUTECH 1 package kit contains:

UP28 F	Front mount helm pump.
UC128-OBF	Front mount outboard cylinder. *Specify engine type when ordering*
OIL 15	Hydraulic oil - 2 litres (0,5 gallons).
KIT OB	Hose kit with preassembled fittings. *Specify length required when ordering*

NAUTECH 1 not including KIT OB flexible hoses is available on request.
The wheel is not included.

NAUTECH 1

NAUTECH 3 WHEEL TURNS 4,8

NAUTECH 3 package kit contains:

UP25 F	Front mount helm pump.
UC128-OBF	Front mount outboard cylinder. *Specify engine type when ordering*
OIL 15	Hydraulic oil - 2 litres (0,5 gallons).
KIT OB	Hose kit with preassembled fittings. *Specify length required when ordering*

NAUTECH 3 not including KIT OB flexible hoses is available on request.
The wheel is not included.

NAUTECH 3

SILVERSTEER™

HIGH PERFORMANCE STEERING SYSTEMS
UP28 F-SVS – UP33 F-SVS – UP39 F-SVS
FRONT MOUNT HELM PUMPS

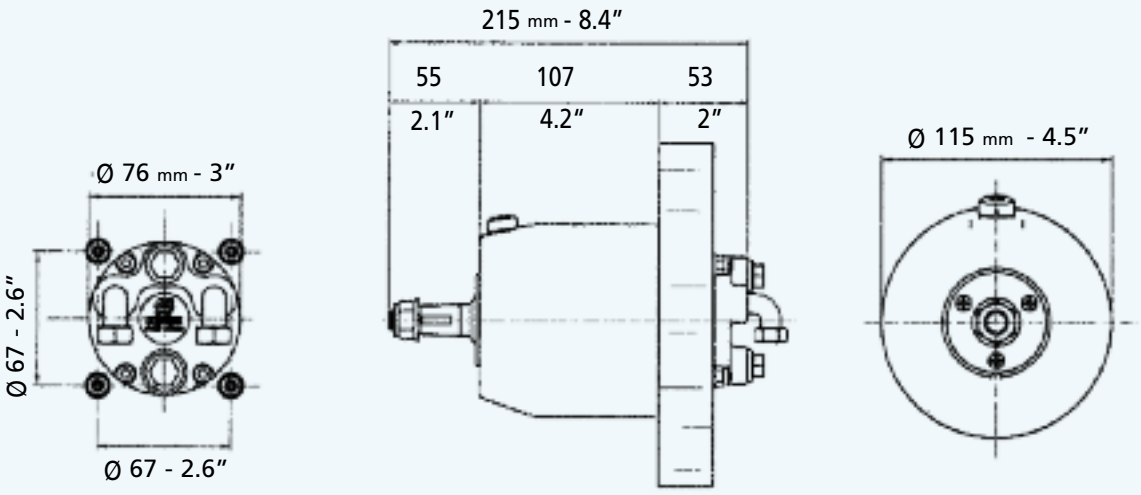
SilverSteer™ SVS helms have been specifically designed for high torque applications such as bass boats, flats boats, and boats with shallow dead rise and high horsepower.
Featuring a 1500 psi check valve and a patented pressure valve that enhances responsiveness, the SilverSteer™ helms will deliver very precise steering at all torque loads.
The SVS helms are always to be installed in conjunction with the UC128-SVS cylinders and the Kit OB-SVS hoses, which are also specifically designed for high torque applications.
The front mount version is a direct drop-in replacement for competing helms. Both the front mount and tilt helms feature stainless steel shafts and adjustable 45° boss style fittings.

CE

FEATURES

- Available in three different displacement sizes
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock
- **Integral relief valve for over-pressure protection 105 bar (1500 psi)**
- 3/4" tapered stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron rotor for greater durability and longer life
- **Complete with fittings adjustable at 45° for 3/8" tube**

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	No. OF PISTONS	RELIEF VALVE SETTING	MAXIMUM WHEEL DIA.	WEIGHT
UP28 F-SVS	**41280 S**	Front mount	28 cc - 1.7 cu.in	5	105 bar - 1500 PSi	710 mm - 28"	5 kg - 11 lbs
UP33 F-SVS	**41327 S**	Front mount	33 cc - 2.0 cu.in	7	105 bar - 1500 PSi	710 mm - 28"	5 kg - 11 lbs
UP39 F-SVS	**41876 C**	Front mount	39 cc - 2.4 cu.in	7	105 bar - 1500 PSi	710 mm - 28"	5 kg - 11 lbs



UP28 F-SVS, UP33 F-SVS and UP39 F-SVS DIMENSIONS

HIGH PERFORMANCE OUTBOARD STEERING SYSTEMS
UP28 T-SVS – UP33 T-SVS – UP39 T-SVS TILT MOUNT HELM PUMPS

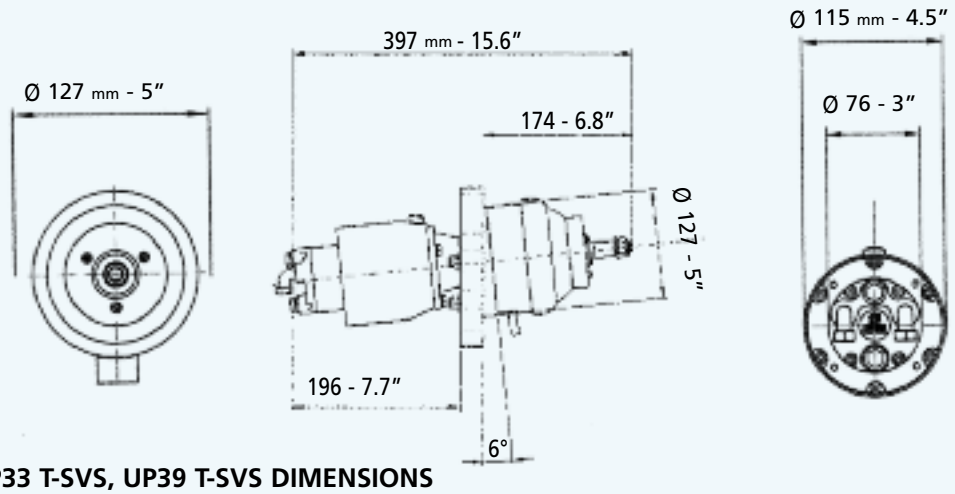
FEATURES

- Available in three different displacement sizes
- Compact design
- Ball bearing piston race
- Built-in lock valve for positive rudder lock (patented)
- **Integral relief valve for over-pressure protection 105 bar (1500 psi)**
- Stainless steel shaft
- Easily accessible lock valve and shaft seal for replacement
- Cast iron rotor for greater durability and longer life
- Complete with fittings adjustable at 45° for 3/8" tube
- Tilt mechanism for SilverSteer™ systems:
  X70-SVS – 41880 T
- Tilt range of 48° and five locking positions

WARNING: X52 standard tilt mechanism cannot be used on SilverSteer™ high performance helm pumps
KIT-F (optional) – 39664 Y Remote fill adapter

X70-SVS

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	No. OF PISTONS	RELIEF VALVE SETTING	MAXIMUM WHEEL DIA.	WEIGHT
UP28 T-SVS	41814 D	With X70-SVS	28 cc - 1.7 cu.in	5	105 Bar - 1500 PSI	406 mm - 16"	5 kg - 11 lbs
UP33 T-SVS	41815 F	With X70-SVS	33 cc - 2.0 cu.in	7	105 Bar - 1500 PSI	406 mm - 16"	5 kg - 11 lbs
UP39 T-SVS	41881 V	With X70-SVS	39 cc - 2.4 cu.in	7	105 Bar - 1500 PSI	406 mm - 16"	5 kg - 11 lbs



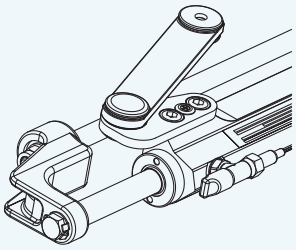
UP28 T-SVS, UP33 T-SVS, UP39 T-SVS DIMENSIONS

HIGH PERFORMANCE OUTBOARD STEERING SYSTEMS
UC128-SVS FRONT MOUNT CYLINDER

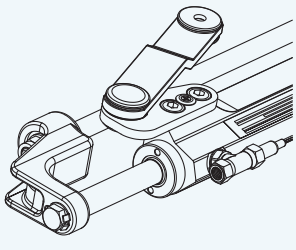
UC128-SVS – Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa

Adjustable boss style fittings for easy installation
High resistance stainless steel connection bolt (ULTRABOLT)

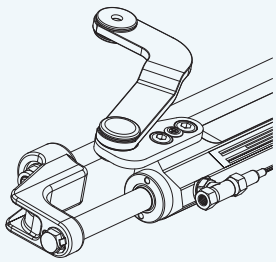
Specially designed for high performance, high torque applications the SilverSteer™ UC128-SVS cylinder is recommended for bass boats, flat boats and tournament fishing boats. The UC128-SVS is built to last with heavy duty stainless steel cylinder rod, seals and link assemblies. Constructed of top grade materials this cylinder is simple to install and fits almost every 2 and 4 stroke outboard engine in the market. See the application guide next page to choose the appropriate cylinder (UC128-SVS/1, UC128-SVS/2 or UC128-SVS/3) for your application.
Depending on the applications on the outboard engines, the UC128-SVS is available in 3 versions:



UC128/1-SVS **41281U**



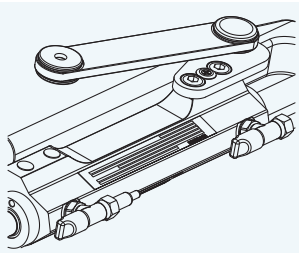
UC128/2-SVS **41282W**



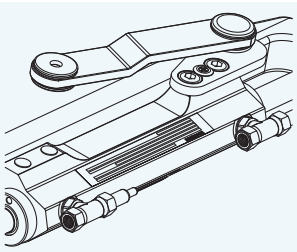
UC128/3-SVS **41283Y**

In the applications with dual UC128-SVS cylinder it is necessary to order a standard UC128-SVS cylinder (link arm attached to the starboard side of the cylinder) and a port UC128-SVS cylinder (link arm attached to the port side of the cylinder). See appropriate section for A90 tie bar required for use on dual engine/dual cylinder applications.
Depending on the applications on the outboard engines, the UC128P-SVS port cylinder is available in 2 versions:

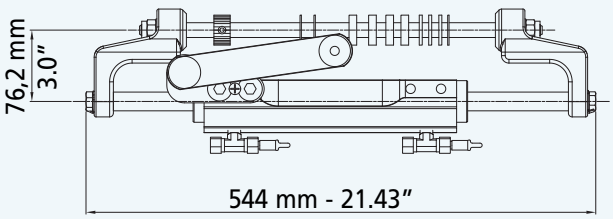
UC128P-SVS



UC128P/1-SVS **41328U**

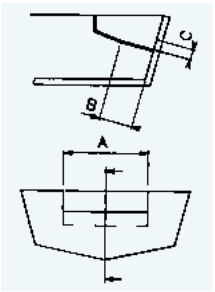


UC128P/2-SVS **41329W**



UC128-SVS, UC128P-SVS DIMENSIONS

SPECIFICATIONS	UC128/1 -/2 -/3 SVS
Volume	120 cc - 7.3 cu. in
Output force	450 kg - 992 lbs
Inside diameter	35 mm - 1.37"
Stroke	185 mm - 7.28"
3/8" (9.5mm) Fittings	For high pressure flex hose
Bleed fittings	DN5 Quick connect



SPLASHWELL DIMENSION REQUIREMENTS			
Engine No.	**A**	**B**	**C**
1	560 mm - 22.05”	152 mm - 5.98”	152 mm - 5.98”
2	1110 mm - 43.70”	152 mm - 5.98”	152 mm - 5.98”

For twin engine applications minimum engine center distance is 550 mm (21.6”)

UC128-SVS CYLINDER APPLICATIONS

ENGINE	POWER	YEAR	CYLINDER	P. No.
Mercury® Mariner®	115-125-150 EFI 2 Stroke	1990-2007	UC128/1-SVS	41281 U
	225-250 EFI 2 Stroke	2000-2007	UC128/1-SVS	41281 U
	135-150-175 Optimax	1999-to date	UC128/1-SVS	41281 U
	200-225-250 Optimax	1999-to date	UC128/1-SVS	41281 U
	RACING 300 Optimax		UC128/1-SVS	41281 U
	250 Saltwater EFI 4 Stroke	2004-2006	UC128/1-SVS	41281 U
	135-150-175-200 Verado L4		UC128/1-SVS	41281 U
Evinrude®	E115-E130-E135 2 Stroke V4	1995-to date	UC128/2-SVS	41282 W
	E150-E175-E200 2 Stroke V6	1995-to date	UC128/2-SVS	41282 W
	E200 HO- E225-E250 2 Stroke V6	1995-to date	UC128/2-SVS	41282 W
	E250HO- E300 2 Stroke V6		UC128/2-SVS	41282 W
Yamaha®	115C-130B 2 Stroke	1998-2008	UC128/2-SVS	41282 W
	150F-200F-250G 2 Stroke	1996-2007	UC128/2-SVS	41282 W
	150 HPDI VMAX 2 Stroke	2000-2008	UC128/2-SVS	41282 W
	175-200-225-250-300 HPDI VMAX 2 Stroke	2000-2008	UC128/2-SVS	41282 W
	F115-F150 EFI 4 Stroke	1999-2007	UC128/1-SVS	41281 U
	F200-F225-F250 4 Stroke	2002-2007	UC128/2-SVS	41282 W
	F115-F150	2004-to date	UC128/1-SVS	41281 U
	F200-F225-F250-F300-F350 4 Stroke	2006-to date	UC128/2-SVS	41282 W
Honda®	BF115D	1998-2009	UC128/3-SVS	41283 Y
	BF115A	2009-to date	UC128/1-SVS	41281 U
	BF130A	1998-2005	UC128/3-SVS	41283 Y
	BF135-150 4 Stroke	2005-to date	UC128/1-SVS	41281 U
	BF150 V-TEC 4 Stroke	2008-to date	UC128/1-SVS	41281 U
	BF175-BF200-BF225 4 Stroke	2001-to date	UC128/1-SVS	41281 U
Suzuki®	DF100-115-140 4 Stroke*	1998-2008	UC128/1-SVS*	41281 U
	DF100-115-140 4 Stroke	2008-to date	UC128/1-SVS	41281 U
	DF150-175 4 Stroke	2006-to date	UC128/1-SVS	41281 U
	DF200-DF225-DF250-DF300		UC128/2-SVS	41282 W
Tohatsu®	115-120-140 2 Stroke	2004-to date	UC128/2-SVS	41282 W
	70-90-115 TLDI 4 Stroke	2004-to date	UC128/1-SVS	41281 U
Selva®	80 Portofino/Tigershark 2 Stroke	1995-2008	UC128/2-SVS	41281 U
	150 White Shark 2 Stroke	2001-2007	UC128/1-SVS	41282 W
	100EFI Marlin -115 EFI Narwhal-	2000-to date	UC128/2-SVS	41281 U
	150EFI Killer Whale 4 Stroke			
Johnson®	BJ90-115-140 4 Stroke	2001-2007	UC128/1-SVS	41281 U
	J90-115 V4 2 Stroke	1995-2007	UC128/2-SVS	41282 W
	J150-175 V6 2 Stroke	1995-2007	UC128/2-SVS	41282 W
	J200-225 V6 4 Stroke	2004-2007	UC128/2-SVS	41282 W

WARNING
These recommendations should be used as a general reference only. Final selection should be made with the assistance of a qualified installation technician.
For any further information please contact our Technical Service.

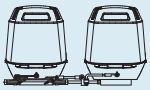
***NOTE:**
Suzuki® engines built from 1998 to 2008 installing UC128/1-SVS cylinder require the kit **KIT SU** - 41954W ordered separately.

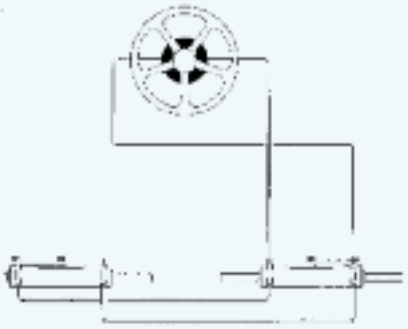
SILVERSTEER™

UC128-SVS CYLINDER

ORDER GUIDE:

WARNING
The UC128-SVS front mount cylinder is not recommended for use in installations where the boat speed exceeds **60 mph (60 knots)**; (65 mph (60 knots) in dual engine, dual cylinder and counter rotating engines application).
Not intended for use in racing application.

SYSTEM	APPLICATION	WHEEL TURNS	COMPONENTS	MODEL	QTY
Single Engine Single Cylinder	Up to 350 hp max	4,3 (UP28) 3,6 (UP33)	Cylinder Helm pump Hose Kit Oil Steering wheel	UC128-SVS UP28 or UP33-SVS KIT OB-SVS OIL 15 (Wheel selection)	1 1 1 2 1
For a second station add: **1 UP28-SVS or UP33-SVS helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB-SVS, 1 OIL 15, 1 steering wheel**					
Dual engine Single cylinder 	Up to 350 hp max (non-counter rotating engine) Up to 600 hp max (counter rotating engine)	4,3 (UP28) 3,6 (UP33)	Cylinder Helm pump Hose Kit Oil Tie bar Steering wheel	UC128-SVS UP28 or UP33-SVS KIT OB-SVS OIL 15 A94 (Wheel selection)	1 1 1 2 1 1
For a second station add: **1 UP28-SVS or UP33-SVS helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB-SVS, 1 l OIL 15, 1 steering wheel**					
Dual engine Dual cylinder	Up to 600 hp max (non-counter rotating engines) Up to 700 hp max (counter rotating engines)	6,1 (UP39)	Cylinder Cylinder Port Helm pump Hose Kit Oil Tie bar Steering wheel Connection Kit	UC128-SVS UC128P-SVS UP39-SVS KIT OB-SVS OIL 15 A90 (Wheel selection) KIT OB-2C-SVS	1 1 1 2 3 1 1 1
For a second station add: **1 UP39-SVS helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB-SVS, 2 T fittings 39502 V, 1 OIL 15, 1 steering wheel**					



Dual engine dual cylinder application diagram

ATTENTION:
The SilverSteer™ helm pumps are always to be installed in conjunction with the UC128-SVS cylinder and the Kevlar reinforced hose kit KIT OB-SVS.

NOTE:
Three outboard engine applications are available with UC128-SVS cylinder. For any further and detailed information, please contact our Technical Service.

For triple outboard engine, dual cylinder applications, please refer to tie-bar section.

HIGH PERFORMANCE OUTBOARD STEERING SYSTEMS

KIT OB-SVS : HOSE KIT FOR SINGLE STATION INSTALLATION FOR SILVERSTEER™ SYSTEMS

Two high pressure Kevlar stranded flexible hoses with pre-crimped fittings and bend restrictors on both ends. Recommended for use with all Ultraflex SilverSteer™ helms with 1500 psi relief valves.
Lenghts available: from 3m (9.8') to 9m (29.5') with 0,5m (1.6') increments.

KIT OB-SVS

KIT OB/R5-SVS : HOSE KIT FOR SINGLE STATION INSTALLATION FOR SILVERSTEER™ SYSTEMS

Two high pressure Kevlar stranded flexible hoses with pre-crimped fittings, R5 bulkhead fittings and bend restrictors on both ends. Recommended for use with all Ultraflex SilverSteer™ helms with 1500 psi relief valves.
Available lengths: from 3,00 m (9.8 ft) to 9,00 m (29.5 ft) with 0,5 m (1.6 ft) increments.

KIT OB/R5-SVS

KIT OB-SVS	LENGTH	P. No.
KIT OB-SVS-30	3,00 m - 9.8 ft	41286 E
KIT OB-SVS-35	3,50 m - 11.5 ft	41287 G
KIT OB-SVS-40	4,00 m - 13.2 ft	41288 J
KIT OB-SVS-45	4,50 m - 14.8 ft	41289 L
KIT OB-SVS-50	5,00 m - 16.4 ft	41290 V
KIT OB-SVS-55	5,50 m - 18.0 ft	41291 X
KIT OB-SVS-60	6,00 m - 19.7 ft	41292 Z
KIT OB-SVS-65	6,50 m - 21.3 ft	41293 B
KIT OB-SVS-70	7,00 m - 22.9 ft	41294 D
KIT OB-SVS-75	7,50 m - 24.6 ft	41295 F
KIT OB-SVS-80	8,00 m - 26.3 ft	41296 H
KIT OB-SVS-85	8,50 m - 27.8 ft	41297 K
KIT OB-SVS-90	9,00 m - 29.5 ft	41298 M

KIT OB/R5-SVS	LENGTH	P. No.
KIT OB/R5-SVS-30	3,00 m - 9.8 ft	41312 C
KIT OB/R5-SVS-35	3,50 m - 11.5 ft	41313 E
KIT OB/R5-SVS-40	4,00 m - 13.2 ft	41314 G
KIT OB/R5-SVS-45	4,50 m - 14.8 ft	41315 J
KIT OB/R5-SVS-50	5,00 m - 16.4 ft	41316 L
KIT OB/R5-SVS-55	5,50 m - 18.0 ft	41317 N
KIT OB/R5-SVS-60	6,00 m - 19.7 ft	41318 R
KIT OB/R5-SVS-65	6,50 m - 21.3 ft	41319 T
KIT OB/R5-SVS-70	7,00 m - 22.9 ft	41320 B
KIT OB/R5-SVS-75	7,50 m - 24.6 ft	41321 D
KIT OB/R5-SVS-80	8,00 m - 26.3 ft	41322 F
KIT OB/R5-SVS-85	8,50 m - 27.8 ft	41323 H
KIT OB/R5-SVS-90	9,00 m - 29.5 ft	41324 K

WARNING: The SilverSteer™ helm pumps are always to be installed in conjunction with the UC128-SVS cylinder and the Kevlar reinforced hose kit KIT OB-SVS.

KIT OB-2C-SVS: DUAL CYLINDER/DUAL ENGINE CONNECTION KIT FOR SILVERSTEER™ SYSTEMS

Two high pressure Kevlar stranded flexible hoses with pre-crimped fittings and bend restrictors. Recommended for use with all Ultraflex SilverSteer™ helms with 1500 psi relief valves.
Three lengths available: 70 cm (2.3'), 90 cm (2.95') and 120 cm (3.95').

KIT OB-2C-SVS	LENGTH	P. No.
KIT OB-2C-SVS-07	0,7 m - 2.30 ft	41705 Y
KIT OB-2C-SVS-09	0,9 m - 2.95 ft	41706 A
KIT OB-2C-SVS-12	1,20 m - 3.95 ft	41707 C

KIT OB-2C-SVS

SILVERSTEER™

HIGH PERFORMANCE OUTBOARD STEERING SYSTEMS PACKAGED IN A BOX

Specifically designed for high performance and high torque applications, the SilverSteer™ features a 1500 psi helm and keyed bullhorns on the cylinder for maximum durability and minimal lost motion.
Whether a bass boat, flat boat or tournament style offshore fishing boat, the SilverSteer™ will deliver smooth, responsive and precise steering.
Adjustable boss style fittings allow precise hose routing without the risk of breaking the fittings by overtightening or leaking fittings from loosening during installation, a common problem on competing cylinders.

SVS-28 WHEEL TURNS: 4,3

SilverSteer™ SVS-28 package kit contains:

UP28 F-SVS	Front mount helm pump
UC128-SVS	Front mount outboard cylinder**.** *Specify engine type when ordering.*
OIL 15	Hydraulic oil 2 litres (0.5 gallons).
KIT OB-SVS	Hose kit with preassembled fittings. *Specify length required when ordering.*

The wheel is not included.

SVS-33 WHEEL TURNS: 3,6

SilverSteer™ SVS-33 package kit contains:

UP33 F-SVS	Front mount helm pump
UC128-SVS	Front mount outboard cylinder**.** *Specify engine type when ordering.*
OIL 15	Hydraulic oil 2 litres (0.5 gallons).
KIT OB-SVS	Hose kit with preassembled fittings. *Specify length required when ordering.*

The wheel is not included.

POWER ASSISTED OUTBOARD STEERING SYSTEM

Effortless steering for the most demanding applications!
For the ultimate in steering performance, look no further then the MasterDrive™ power assisted outboard steering system which delivers fingertip control regardless of speed or torque conditions.
With installation similar to conventional manual hydraulic system, the MasterDrive™ eliminates torque at the steering wheel, yet the system maintains functional manual hydraulic steering override in the event of a loss of power.

MD

MasterDrive™ SYSTEM FEATURES

- Three different selectable levels of power give the boater the desired feeling on the wheel (PATENTED).
- Automatically reverts to manual mode in case of power loss.
- High efficiency, low Amp draw
- Immediate control in any sea conditions through the system always running.
- Equipped with safety switch ON/OFF (SMART BUTTON)
- Can be used on dual station installations
- Suitable for use with autopilot
- Low noise
- Voltage: 12VDC
- CE marked in conformity with ABYC P21, ISO 10592 safety standards
- Ignition protected (SAE J-1171 and UNI EN 28846)

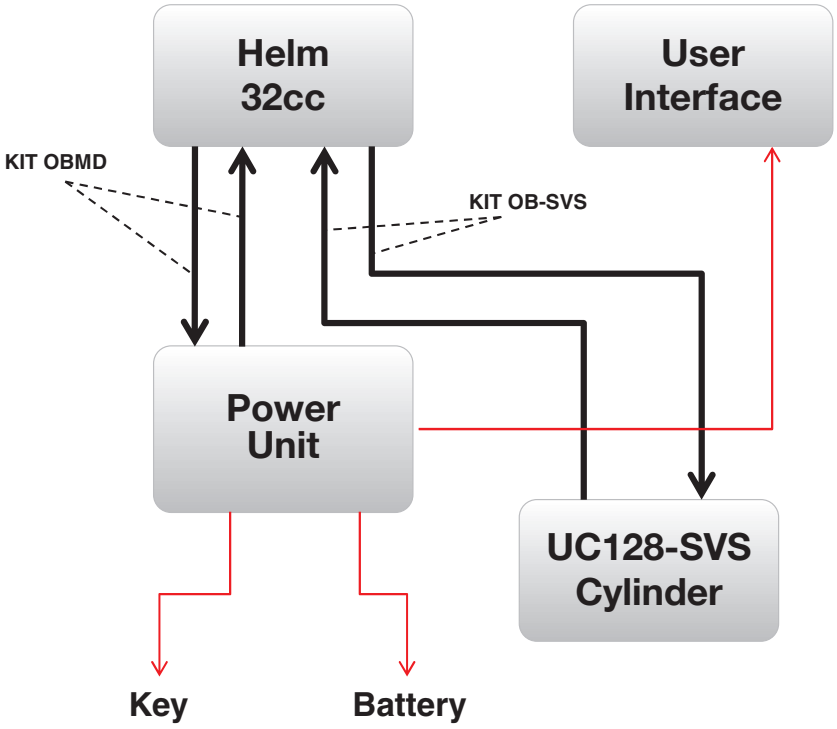
SYSTEM COMPONENTS:

- 1 Front or Tilt Mount Helm **UH**
- 1 Power Unit **UPMD**, 15' wiring harness included
- 1 Silversteer™ Steering Cylinder **UC128-SVS** (1 UC128-SVS starboard+1 UC128/P-SVS port on dual cylinder applications)
- 1 User Interface **UCMD**
- 1 **KIT OBMD**: high pressure antidumping hose kit complete with preassembled fittings.
- 1 **KIT OB-SVS**: SilverSteer™ high pressure hose kit complete with preassembled fittings.
- 1 **KIT OB-2C-SVS**: SilverSteer™ high pressure hose kit complete with preassembled fittings for cylinder connection (dual cylinder applications only).
- Hydraulic oil **OIL 15**

OPTIONAL COMPONENTS:

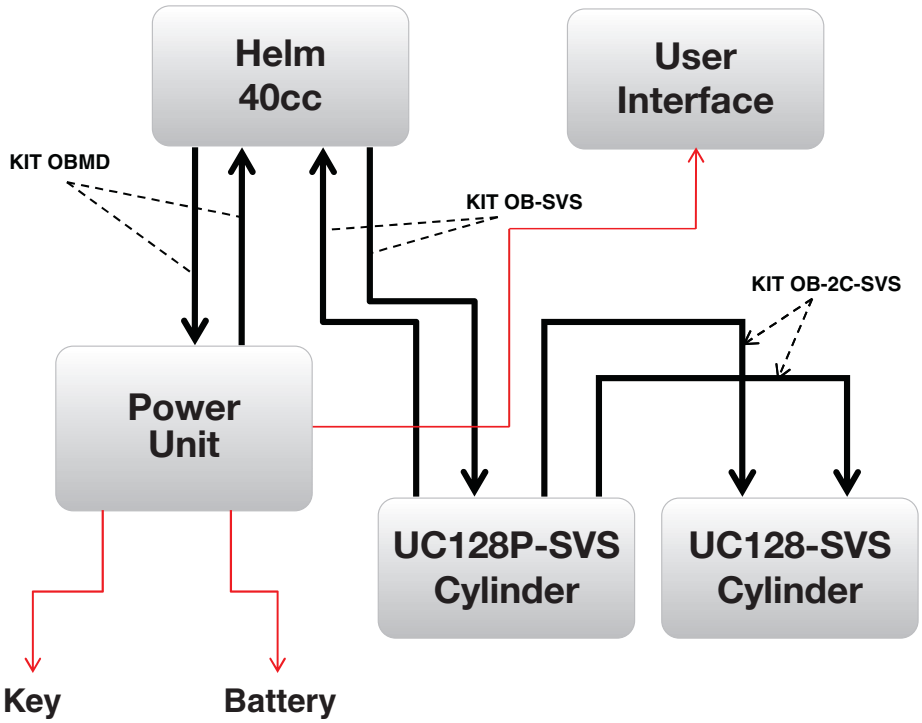
- 1 Tilt mechanism **X66**-40613 M suitable for Tilt Mount Helm. Tilt range of 48° and five locking positions.
- 1 Dual cylinder application Tie Bar: see selection
- 1 Steeing Wheel: see selection

SINGLE CYLINDER APPLICATION



— wiring harness — high pressure hoses

DUAL CYLINDER APPLICATION



— wiring harness — high pressure hoses

MASTERDRIVE

POWER ASSISTED OUTBOARD STEERING SYSTEM

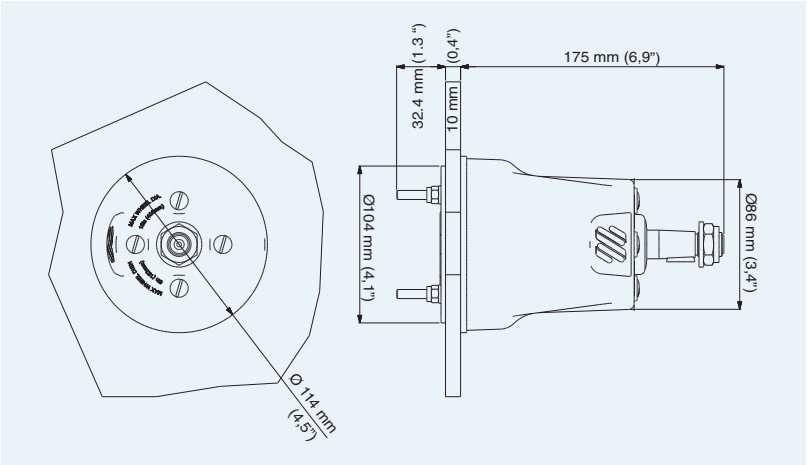
HELM FEATURES - UH

- Available in two different displacement sizes: 32 cc (1.95 cu.in) and 40 cc (2.44 cu.in)
- Front Mount and Tilt Mount versions
- Dual station installation version (front mount, 40cc displacement only)
- Built-in relief valve
- 3/4" tapered shaft
- Corrosion resistant painted body
- Waterproof
- Tilt Mount version is suitable for use with **X66**-40613 M tilt mechanism

UH

MODEL	P. No.	MOUNTING	DISPLACEMENT/ REVOLUTION	APPLICATION	No. OF STATIONS	MAXIMUM WHEEL DIA.
UH32-F	**42091 U**	front mount	32cc - 1.95 cu.in	single cylinder	1	406 mm - 16"
UH32-T	**42092 W**	with X66 tilt	32cc - 1.95 cu.in	single cylinder	1	406 mm - 16"
UH40-F	**42093 Y**	front mount	40cc - 2.44 cu.in	dual cylinder	1	406 mm - 16"
UHD40-F	**42094 A**	front mount	40cc - 2.44 cu.in	dual cylinder	2	406 mm - 16"
UH40-T	**42095 C**	with X66 tilt	40cc - 2.44 cu.in	dual cylinder	1	406 mm - 16"

UH32: wheel turns lock-to-lock in single cylinder applications: **3,75**
UH40: wheel turns lock-to-lock in dual cylinder applications: **6**



UH32-F, UH32-T, UH40-F, UHD40-F and UH40T DIMENSIONS

USER INTERFACE FEATURES - UCMD 42097 G

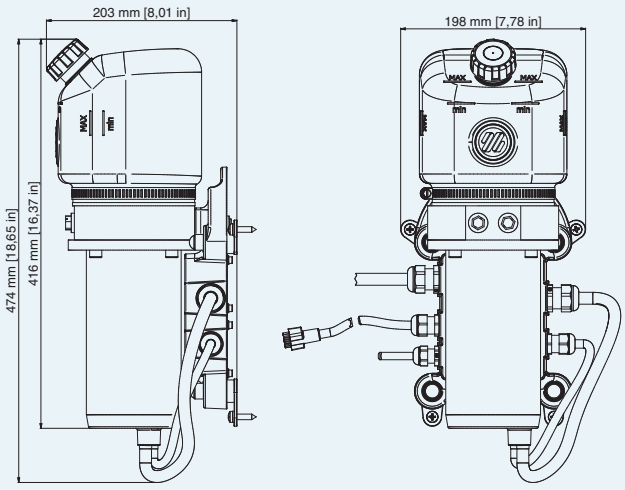
- Safety switch ON/OFF(SMART BUTTON)
- Three different power levels with light indicator (PATENTED)
- Motor temperature visual indicator
- Twin engine key selection included
- Lighted panel for stand-by position
- Plug-in wiring harness
- Suitable for a second station installation

UCMD

POWER ASSISTED OUTBOARD STEERING SYSTEM

POWER UNIT FEATURES - **UPMD** 42096 E

- 12VDC Motor
- 45° swiveling fittings for easy installation
- Semitransparent 0,5 litre (0.11gal) tank gives immediate level vision
- Vented filler plug
- Wall or floor mount
- Black galvanized motor case, salt water resistant
- 4,5 m (15') Wiring Harness included
- IP67 waterproof
- Ignition protected (SAE J-1171 and UNI EN 28846)



UPMD DIMENSIONS

UPMD

HOSE KITS

KIT OB-SVS	LENGTH	PART No.
KIT OB-SVS-10	1,00 m - 3.3 ft	41334 N
KIT OB-SVS-15	1,50 m - 4.9 ft	41800 S
KIT OB-SVS-20	2,00 m - 6.6 ft	41339 Z
KIT OB-SVS-25	2,50 m - 8.2 ft	42106 E
KIT OB-SVS-30	3,00 m - 9.8 ft	41286 E
KIT OB-SVS-35	3,50 m - 11.5 ft	41287 G
KIT OB-SVS-40	4,00 m - 13.1 ft	41288 J
KIT OB-SVS-45	4,50 m - 14.8 ft	41289 L
KIT OB-SVS-50	5,00 m - 16,4 ft	41290 V
KIT OB-SVS-55	5,50 m - 18.0 ft	41291 X
KIT OB-SVS-60	6,00 m - 19.7 ft	41292 Z

KIT OBMD	LENGTH	PART No.
KIT OBMD-10	1,00 m - 3.3 ft	42107 G
KIT OBMD-15	1,50 m - 4.9 ft	42108 J
KIT OBMD-20	2,00 m - 6.6 ft	42109 L
KIT OBMD-25	2,50 m - 8.2 ft	42110 V
KIT OBMD-30	3,00 m - 9.8 ft	42111 X
KIT OBMD-35	3,50 m - 11.5 ft	42112 Z
KIT OBMD-40	4,00 m - 13.1 ft	42113 B
KIT OBMD-45	4,50 m - 14.8 ft	42114 D
KIT OBMD-50	5,00 m - 16,4 ft	42115 F
KIT OBMD-55	5,50 m - 18.0 ft	42116 H
KIT OBMD-60	6,00 m - 19.7 ft	42117K

KIT OB-2C-SVS	LENGTH	PART No.
KIT OB-2C-SVS-07	0,7 m - 2.30 ft	41705 Y
KIT OB-2C-SVS-09	0,9 m - 2.95 ft	41706 A
KIT OB-2C-SVS-12	1,20 m - 3.95 ft	41707 C

ORDER GUIDE

Tilt mechanism X66-40613 M, A90-40138 H tie bar in dual cylinder applications and steering wheel are optional.

NOTE: Upon request, UPMD Power Unit is available with custom legth wiring harness

MODEL	COMPONENTS	PART No.	Q.TY
MD32-1F	UH32-F Front Mount Helm	42091 U	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/1-SVS Cylinder	41281 U	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
MD32-2F	UH32-F Front Mount Helm	42091 U	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/2-SVS Cylinder	41282 W	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
MD32-1T	UH32-T Tilt Mount Helm	42092 W	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/1-SVS Cylinder	41281 U	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
MD32-2T	UH32-T Tilt Mount Helm	42092 W	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/2-SVS Cylinder	41282 W	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
MD40-D1F	UH40-F Front Mount Helm	42093 Y	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/1-SVS Starboard Cylinder	41281 U	1
	UC128P/1-SVS Port Cylinder	41328 U	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
	KIT OB-2C-SVS	Specify length	1
MD40-D2F	UH40-F Front Mount Helm	42093 Y	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/2-SVS Starboard Cylinder	41282 W	1
	UC128P/2-SVS Port Cylinder	41329 W	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
	KIT OB-2C-SVS	Specify length	1
MD40-D1T	UH40-T Tilt Mount Helm	42095 C	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/1-SVS Starboard Cylinder	41281 U	1
	UC128P/1-SVS Port Cylinder	41328 U	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
	KIT OB-2C-SVS	Specify length	1
MD40-D2T	UH40-T Tilt Mount Helm	42095 C	1
	UPMD Power Unit w/harness	42096 E	1
	UC128/2-SVS Starboard Cylinder	41282 W	1
	UC128P/2-SVS Port Cylinder	41329 W	1
	UCMD User Interface	42097 G	1
	OIL15 Hydraulic Oil	70704 K	4
	KIT OB-SVS	Specify length	1
	KIT OBMD	Specify length	1
	KIT OB-2C-SVS	Specify length	1

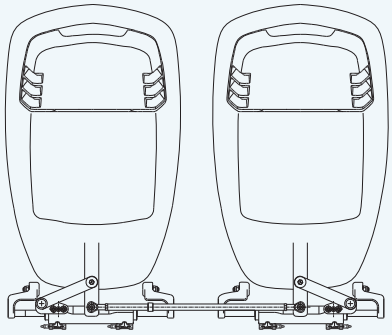
A88 - A92
UNIVERSAL TIE BARS FOR TWIN OUTBOARD ENGINES

A88

Universal tie bars suitable for all outboard applications (racing application excepted) with single or dual cylinder.
Electropolished stainless steel ball joint.

A88 - 40128 E
- All stainless steel components
- Applicable to twin outboard engines using mechanical steering also
- Adjustable from 650 mm (25.6”) to 950 mm (37.4”) engine centers

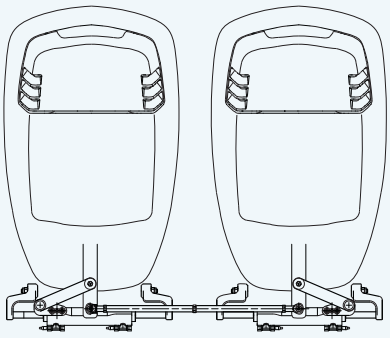
WARNING: On those applications where the clearance between engine tiller arms and cowling is not sufficient fot the use of the **A88**, the **A92** tie bar is recommended



A88 application example

A92/700 - 40892 V
A92/950 - 40893 X
- Easily adjustable before or after installation
- All stainless steel components
- Applicable to twin outboard engines using mechanical steering also
- **A92/700:** Adjustable from 550 mm (21.6”) to 700 mm (27.5”) engine centers
- **A92/950:** Adjustable from 700 mm (27.5”) to 950 mm (37.4”) engine centers

A92



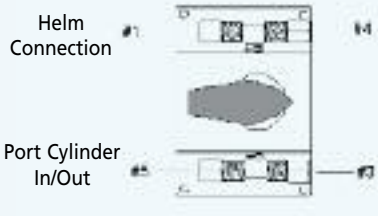
A92 application example

ATTENTION: As the tiller arm position varies from engine to engine and the distance between two engines is not predictable, unexpected interferences may occur while tilting. A duly check of the tie bar installation is then strongly recommended.
Should you need additional information, please do not hesitate to refer to our Technical Service.

HYDRAULIC TIE BAR

LTB1 - 42085 Z
Hydraulic Tie Bar for twin engine / twin cylinder applications where a mechanical tie bar is not feasible. Engine centers must be at least 38" wide as engine can periodically misalign.
It connects using standard KIT-OB or KIT-OB/R5 hoses.

LTB1



LTB1 application example

A94
TWIN OUTBOARD ENGINE/SINGLE UC128-OBF or UC128-SVS CYLINDER TIE BAR

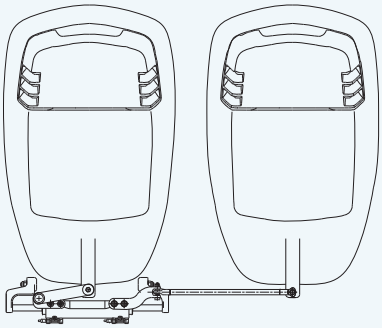
Heavy duty twin engine/single cylinder tie bar kit for use with UC128 outboard cylinders. These AISI 304 electropolished and passivated stainless steel tie bars are simple to install and allow for independent trimming of engines with minimal effect on engine alignment. Not recommended for applications exceeding 500 HP.

A94 - 41204Z

- Suitable for applications with single UC128-OBF (or UC128-SVS) front mount cylinder
  NOTE: In the applications with dual cylinder use **A90** tie bar
- Allows to tilt the engines independently
- Stainless steel components
- Electropolished stainless steel ball joints
- Not recommended for applications exceeding 500 HP
- Adjustable from 660 mm (26") to 950 mm (37.4") engine centers

ATTENTION: As the tiller arm position varies from engine to engine and the distance between two engines is not predictable, unexpected interferences may occur while tilting. A duly check of the tie bar installation is then strongly recommended. Should you need additional information, please do not hesitate to refer to our Technical Service.

A94



A94 application example

A94 TIE BAR APPLICATIONS

WARNING
These recommendations should be used as a general reference only. For any further information please contact our Technical Service.

ENGINE	POWER
Mercury®	135-150-175 Optimax 2 Stroke 200-225 Optimax 2 Stroke 250 PRO XS 135-150-175 Verado 4 Stroke 200 Verado 4 Stroke
Honda®	115-135-150 OHC BF 200 SOHC BF 225 A6
Yamaha®	F115-150-200-225-250 4 Stroke
Evinrude®	E115-130-150-175-200 V6 E200-225-250-300
Suzuki®	DF70-80-90 4 Stroke DF100-115-140-150-175 4 Stroke DF200-250-300 DOHC 4 Stroke

UC128 + A94

A90
TWIN OUTBOARD ENGINE/TWIN UC128-OBF or UC128-SVS CYLINDER TIE BAR

A90 - 40138 H

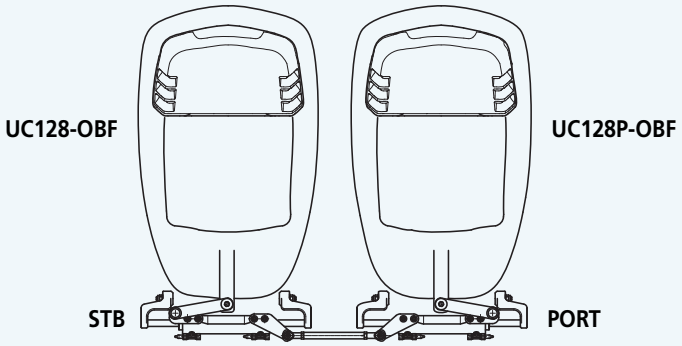
- Suitable for applications with dual UC128-OBF (or UC128-SVS) front mount cylinder
  NOTE: in applications with single cylinder use A94 tie bar
- All stainless steel
- Electropolished stainless steel ball joints
- Allows to tilt the engines independently
- Applicable to engine centers variable from 660 mm (26") to 950 mm (37.4").

WARNING: In the applications with dual UC128-OBF (or UC128-SVS) cylinder it is necessary to order a standard UC128-OBF (or UC128-SVS) cylinder (link arm attached to the starboard side of the cylinder) and a UC128P-OBF (or UC128P-SVS) port cylinder (link arm attached to the port side of the cylinder).

UC128 starboard cylinders:
UC128-OBF/1 - 39423 Z
UC128-OBF/2 - 39966 R
UC128-OBF/3 - 39967 T
UC128/1-SVS - 41281 U
UC128/2-SVS - 41282 W
UC128/3-SVS - 41283 Y

UC128P port cylinders:
UC128P-OBF/1 - 40106 U
UC128P-OBF/2 - 40107 W
UC128P/1-SVS - 41328 U
UC128P/2-SVS - 41329 W

A90



A90 application example

UC128 + A90

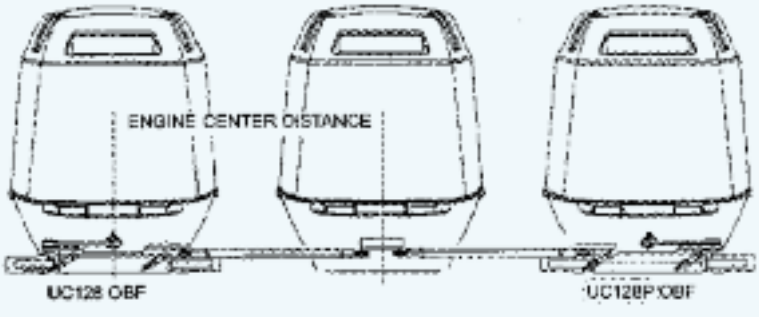
A93
TRIPLE OUTBOARD ENGINE/TWIN UC128-OBF OR UC128-SVS CYLINDER TIE BAR

A93

- Suitable for applications with triple outboard engines and dual cylinder UC128-OBF (or UC128-SVS)

A93

A93 - XLL



ATTENTION: As the tiller arm position varies from engine to engine and the distance between two engines is not predictable, unexpected interferences may occur while tilting. A duly check of the tie bar installation is then strongly recommended.
Should you need additional information, please do not hesitate to refer to our Technical Service.

Photo courtesy of Donzi Marine

STERNDRIVE CYLINDERS

WARNING:
Not intended for use with SilverSteer™ SVS Series helms

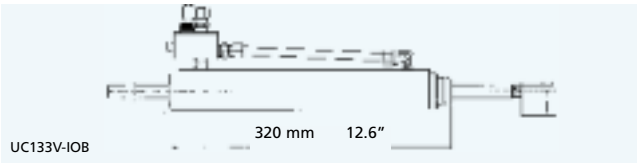
UC133-IOB
Balanced cylinder: the number of turns lock to lock is equal port to starboard or vice-versa

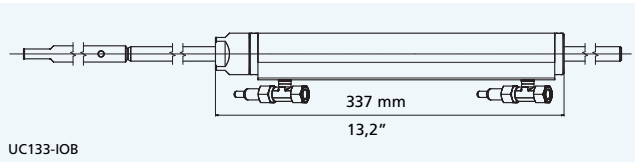
UC132-OBS
Unbalanced cylinder: the number of turns lock to lock is not equal port to starboard or vice-versa

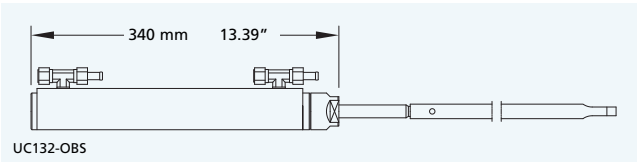
CYLINDER FOR VOLVO DP-E AND DP-G POWER ASSISTED STERNDRIVES

UC133V-IOB

SPECIFICATIONS	**UC133-IOB** - 39429 M **Balanced**	**UC132-OBS** - 39430 W **Unbalanced**	**UC133V-IOB** - 39985 V **Balanced**
Volume	132 cc - 8 cu. in	132 / 163 cc - 8 / 9.95 cu. in	132 cc - 8 cu. in
Torque	66 kgm - - 5738 lbs. in		66 kgm - - 5738 lbs. in
Output force	464 kg -1023 lbs	464 / 574 kg - 1023 / 1265 lbs	464 kg -1023 lbs
Inside diameter	32 mm - 1.25”	32 mm - 1.25”	32 mm - 1.25”
Stroke	203 mm - 8”	203 mm - 8”	203 mm - 8”
3/8” (9,5 mm) Fittings	For high pressure flex hose	For high pressure flex hose	For high pressure flex hose







STERNDRIVE CYLINDERS

ENGINE	YEAR	MODEL	STERNDRIVE CYLINDERS			
			non power assist engine	see notes	power assisted engine	see notes
MERCRUISER®	To date	ALPHA	UC133-IOB	1, 3	UC132-OBS	2
	To date	BRAVO ONE	UC133-IOB	1, 3	UC132-OBS	2
	To date	BRAVO TWO	UC133-IOB	1, 3	UC132-OBS	2
	To date	BRAVO THREE	UC133-IOB	1, 3	UC132-OBS	2
VOLVO®	To date	275	UC168-I		N/D	
	To date	280	UC133-IOB	1, 3, 4	UC132-OBS	2
	To date	290	UC133-IOB	1, 3, 4	UC132-OBS	2
	To date	DP-E	UC133-IOB	1, 3, 5	UC133V-IOB	
	To date	DP-G	N/A		UC133V-IOB	
	To date	DP-S	N/A		UC132-OBS	2

APPLICATIONS

WARNING These recommendations should be used as general reference only and they apply to factory stock sterndrives only. In doubt, contact a qualified installation technician.

1. Balanced cylinder the number of turns lock to lock is equal port to starboard or vice-versa
2. Unbalanced cylinder the number of turns lock to lock is not equal port to starboard or vice-versa
3. Clearance required at the engine tube side: 21.2" (540 mm).
4. ULTRAFLEX hydraulic cylinder can be installed as an alternative to a mechanical steering system only.
5. The Volvo P. No. 872388 adaptor fitting is required for the installation.

NOTE: For applications with sterndrive engines not listed above, please contact our Technical Service.

ORDER GUIDE

SYSTEM A	Turn lock to lock: Balanced 4.7 - Unbalanced 4.7/5.8 Max rudder torque: 66 kgm - 5738 lbs. in		
Components	**Model**	**Q.ty**	
Helm pump	UP28	1	For additional station add: 1 UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB hose Kit, extra OIL 15, 1 steering wheel
Cylinder	see application	1	
Hose Kit	KIT OB	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

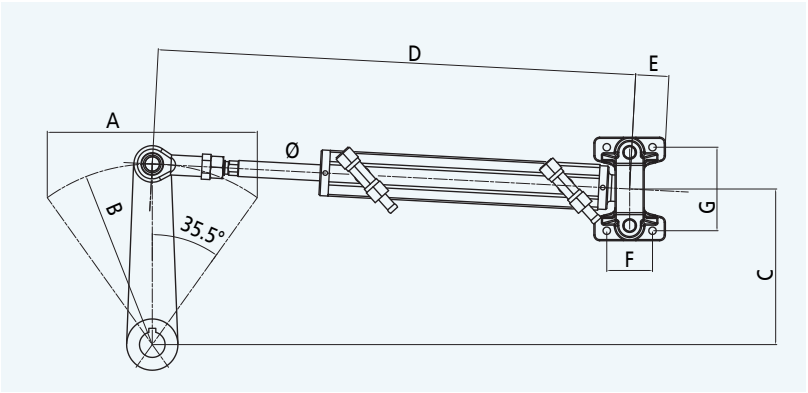
NOTE: 3/8" or 10 mm diameter copper tubing can be used as an alternative tubing for plumbing the systems. For these applications a fitting kit – KIT 95 or KIT 100 – is required.

SYSTEM B	Turn lock to lock: Balanced 4 - Unbalanced 4/5 Max rudder torque: 66 kgm - 5738 lbs. in		
Components	**Model**	**Q.ty**	
Helm pump	UP33	1	For additional station add: 1 UP33 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB hose Kit, extra OIL 15, 1 steering wheel
Cylinder	see application	1	
Hose Kit	KIT OB	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

UC69-I INBOARD CYLINDER

UC69-I - Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa.

SPECIFICATIONS	UC69-I - 39782 E
Volume	69 cc - 4.2 cu. in
Torque	32 kgm - 2783 lbs. in
Output force	168 kg - 371 lbs
Inside diameter	25 mm - 0.98"
Stroke	150 mm - 5.9"
3/8" (9.5mm) Fittings	For high pressure flex hose



A	150 mm - 5.9"
B	129 mm - 5.11"
C	136 mm - 5.35"
D	417 mm - 16.42"
E	31,3 mm - 1.23"
F	40 mm - 1.57"
G	73 mm - 2.87"
Rod Ø	14 mm - 0.6"

INBOARD HYDRAULIC STEERING SYSTEM PACKAGED IN A BOX

HYCO-I WHEEL TURNS 3,5

HYCO-I package kit contains:

UP20 F Front mount helm pump.
UC69-I Inboard cylinder.
OIL 15 Hydraulic oil - 2 litres.
KIT OB Hose kit with preassembled fittings.
Specify length required when ordering.

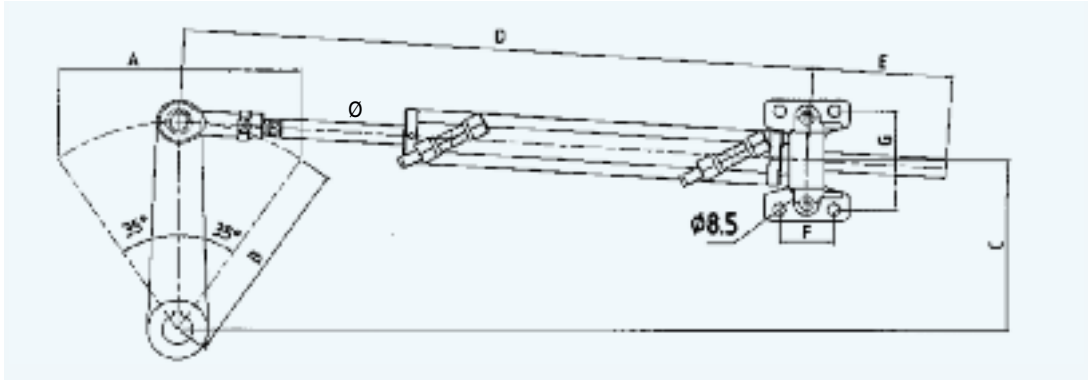
HYCO-I not including KIT OB flexible hoses is available on request.
The wheel is not included.

WARNING: HYCO-I steering system is suitable for inboard boats up to approx. 24 - 26 ft (7,5 - 8 m) length and 25 mph max speed.

HYCO-I

UC116-I; UC168-I; UC215-I
All balanced cylinders: the number of turns lock-to-lock is equal port to starboard and vice-versa

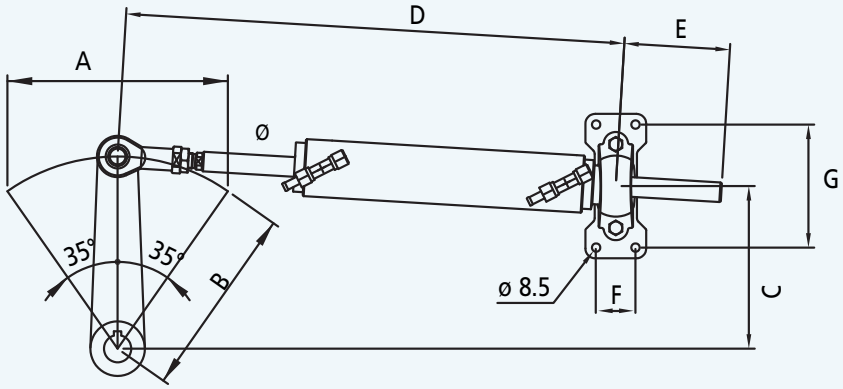
SPECIFICATIONS	**UC116-I** - 39431 Y **Alluminum**	**UC168-I** - 39432 A **Alluminum**	**UC215-I** - 39433 C **Alluminum**
Volume	116 cc - 7 cu. in	168 cc - 10.25 cu.in	215 cc - 13.12 cu. in
Torque	58 kgm - 5043 lbs. in	87 kgm - 7565 lbs. in	111 kgm - 9652 lbs. in
Output force	464 kg - 1023 lbs	673 kg - 1483 lbs	673 kg - 1483 lbs
Inside diameter	32 mm - 1.25”	40 mm - 1.57”	40 mm - 1.57”
Stroke	178 mm - 7”	178 mm - 7”	228 mm - 9”
3/8” (9,5 mm) Fittings	For high pressure flex hose	For high pressure flex hose	For high pressure flex hose



	UC116-I	UC168-I	UC215-I
A	178 mm - 7”	178 mm - 7”	228 mm - 9”
B	155 mm - 6.1”	155 mm - 6.1”	199 mm - 7.8”
C	127 mm - 5”	127 mm - 5”	163 mm - 6.4”
D	466 mm - 18.3”	512 mm - 20.1”	587 mm - 23.1”
E	102 mm - 4”	107.5 mm - 4.2”	132.5 mm - 5.2”
F	40 mm - 1.6”	40 mm - 1.6”	40 mm - 1.6”
G	73 mm - 2.9”	105 mm - 4.1”	105 mm - 4.1”
Rod Ø	14 mm - 0.6”	20 mm - 0,8”	20 mm - 0,8”

UC293-I; **UC378-I**
Balanced: the number of turns lock-to-lock is equal port to starboard or vice-versa.

SPECIFICATIONS	**UC293-I** - 40246 L **Brass**	**UC378-I** - 40810 P **Brass**
Volume	293 cc - 17.8 cu. in	376 cc - 22.94 cu. in
Torque	146,5 kgm - 12816 lbs. in	187,6 kgm - 16347 lbs. in
Output force	1155 kg - 2545 lbs	1155 kg - 2545 lbs
Inside diameter	50 mm - 1.97”	50 mm - 1.97”
Stroke	178 mm - 7”	228 mm - 9”
Fittings	3/8” (9,5 mm) for high pressure flex hose	for 0.5” (12 mm) copper tube (flexible connection hoses included)



	UC293-I	UC378-I
A	178 mm - 7”	228 mm - 9”
B	163 mm - 6.4”	199 mm - 7.8”
C	134 mm - 5.2”	163 mm - 6.4”
D	506 mm - 19.9”	592 mm - 23.3”
E	107 mm - 4.2”	132,5 mm - 5.2”
F	40 mm - 1.6”	40 mm - 1.6”
G	125 mm - 4.9”	125 mm - 4.9”
Rod Ø	20 mm - 0.8”	20 mm - 0.8”

ORDER GUIDE

NOTE: With systems 1 and 2, a 3/8" nylon tubing (TU95) can be used as an alternative to the standard KIT-OB hose kit for plumbing the system.
For these applications the fitting kit for the additional station is KIT95-2S.

NOTE: With systems 1, 2, 3, 4 and 5 a copper tubing (3/8" dia or 10 mm) can be used as an alternative tubing for plumbing the system. For these applications a fitting kit, KIT 95 or KIT 100, is required. For applications on commercial boats, the use of copper tubing is recommended.

SYSTEM 1

Turn lock to lock: 4,6 (UP25) or 4,1 (UP28)
Max rudder torque: 58 kgm (5043 lbs. in)

Components	Model	Qty	
Helm pump	UP25 or UP28	1	For additional station add: 1 UP25 or UP28 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB hose Kit, extra OIL 15, 1 steering wheel
Cylinder	UC116-I	1	
Hose Kit	KIT OB	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

SYSTEM 2

Turn lock to lock: 6 (UP28) or 5,1 (UP33)
Max rudder torque: 87 kgm (7565 lbs. in)

Components	Model	Qty	
Helm pump	UP28 or UP33	1	For additional station add: 1 UP28 or UP33 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB hose Kit, extra OIL 15, 1 steering wheel
Cylinder	UC168-I	1	
Hose Kit	KIT OB	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

SYSTEM 3

Turn lock to lock: 6,5 (UP33) or 5,5 (UP39)
Max rudder torque: 111 kgm (9652 lbs. in)

Components	Model	Qty	
Helm pump	UP33 or UP39	1	For additional station add: 1 UP33 or UP39 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB hose Kit, extra OIL 15, 1 steering wheel
Cylinder	UC215-I	1	
Hose Kit	KIT OB	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

SYSTEM 4

Turn lock to lock: 7,5 (UP39) or 6,5 (UP45)
Max rudder torque: 146,5 kgm (12816 lbs. in)

Components	Model	Qty	
Helm pump	UP39 or UP45	1	For additional station add: 1 UP39 or UP45 helm pump, 1 KIT OB-2S fitting kit, 1 KIT OB hose Kit, extra OIL 15, 1 steering wheel
Cylinder	UC293-I	1	
Hose Kit	KIT OB	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

SYSTEM 5

Turn lock to lock: 8,4
Max rudder torque: 187,6 kgm (16347 lbs. in)

Components	Model	Qty	
Helm pump	UP45-I R	1	For additional station add: 1 UP45-I R helm pump, 1 KIT 120U-2S fitting kit, extra OIL 15, 1 steering wheel
Cylinder	UC378 I	1	
Oil	OIL 15	3	
Steering wheel	(Wheel selection)	1	

ULTRAFLEX HYDRAULIC STEERING SYSTEMS WITH GARMIN GHP 10 MARINE AUTOPILOT

Ultraflex offers its technical experience to those customers who desire an autopilot by proposing the Garmin GHP 10 Autopilot System, being the compatibility and reliability with ULTRAFLEX hydraulic steering systems fully tested.

GHP 10 MARINE AUTOPILOT FEATURES

- Grants optimal performances and safety in all sea conditions.
- The patented Shadow Drive system automatically disengages the autopilot if the helm is turned, allowing the helmsman to maneuver the boat.
- Checks the route through the Rate Gyro-G-Limited compass keeping it even with strong wind, waves or currents.
- It doesn't need any rudder angle feedback; it works also in reverse and can handle the fishing maneuvering.

ORDER GUIDE

These recommendations should be used as a general reference only. For any further information please contact our **Technical Service**.

ULTRAFLEX HYDRAULIC STEERING SYSTEMS	SUITABLE AUTOPILOT COMPONENTS	PART No.
Applications with single outboard cylinder: HYCO-OBF NAUTECH 1 NAUTECH 3 SVS-28	GHP 10 Core Pack Garmin 2 litres Garmin pump kit Ultraflex Hose kit + fittings	42125J 42126L 42124G
Applications with dual outboard cylinder: UC128-OBF UC128-SVS	GHP 10 Core Pack Garmin 2,1 litres Garmin pump kit Ultraflex Hose kit + fittings	42125J 42127N 42124G
Applications with outboard side mount cylinder: UC68-OBS UC132-OBS	GHP 10 Core Pack Garmin 2 litres Garmin pump kit Valve Ultraflex kit for unbalanced cylinders Ultraflex Hose kit + fittings	42125J 42126L 42128R 42124G
Applications with balanced sterndrive cylinder: UC133-IOB	GHP 10 Core Pack Garmin 2 litres Garmin pump kit Ultraflex Hose kit + fittings	42125J 42126L 42124G
Applications with unbalanced sterndrive cylinder: UC132-OBS	GHP 10 Core Pack Garmin 2 litres Garmin pump kit Valve Ultraflex kit for unbalanced cylinders Ultraflex Hose kit + fittings	42125J 42126L 42128R 42124G
Application with inboard cylinder: UC69-I UC116-I	GHP 10 Core Pack Garmin 2 litres Garmin pump kit Ultraflex Hose kit + fittings	42125J 42126L 42124G
Application with inboard cylinder: UC168-I UC215-I UC293-I UC378-I	GHP 10 Core Pack Garmin 2,1litres Garmin pump kit Ultraflex Hose kit + fittings	42125J 42127N 42124G

WARRANTY

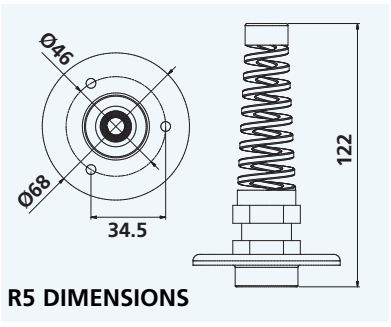
For all Garmin autopilots and components please refer to Garmin Italia S.p.A. warranty terms and conditions.

BULKHEAD HOSE KITS

R5 - BULKHEAD STRAIN RELIEF HOSE KIT

R5 kit distributes strain from bends in hose. It features a water tight gripper fitting and a bulkhead fitting flange for hose protection.
R5 - 39510 U

R5

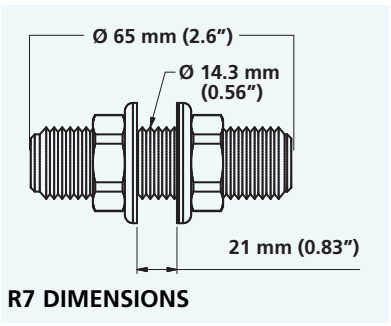


R5 DIMENSIONS

R7 - 3/4" BULKHEAD FITTING KIT

3/4" bulkhead fitting kit for single cylinder installation. 2 assemblies as illustrated per kit.
R7 - 40819 J

R7 KIT



R7 DIMENSIONS

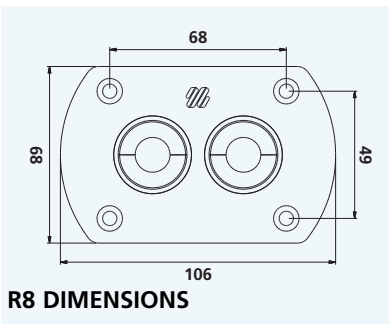
R8 - DUAL THRU-HULL HOSE KIT

Connection flange available in three different colours
R8B - Black 41299 P
R8W - White 41300 V
R8CH - Chrome 41301 X

R8B

R8W

R8CH



R8 DIMENSIONS

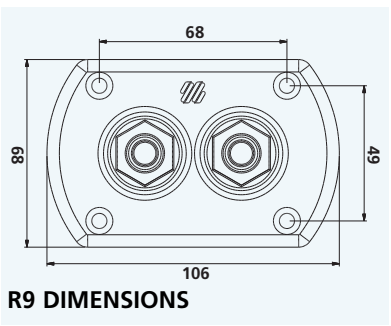
R9 - BULKHEAD KIT FOR DUAL HOSE WITH PREASSEMBLED FITTINGS

Connection flange available in three different colours
R9B - Black 41302 Z
R9W - White 41303 B
R9CH - Chrome 41304 D

R9B

R9W

R9CH



R9 DIMENSIONS

KIT OB-2S: FITTINGS FOR A SECOND STEERING STATION OR AUTOPILOT INSTALLATION

It includes all necessary fittings and 8 m (26.3 ft) of 3/8" dia. nylon tube for the compensating line

KIT OB-2S - 39539 V

KIT OB-2S

HOSES, FITTINGS, BEND RESTRICTORS FOR FLEXIBILITY OF THE INSTALLATIONS AND INTEGRATION WITH AUTOPILOT

TU5/16: 5/16" nylon tubing recommended for outboard engines applications and fittings OB-F5/16

OB-F5/16: 40849 U Fitting featuring turning nut for use with 5/16" hydraulic hose and connection for 3/8" fitting

OB-F5/16

KIT 2M-5/16: 41822 C Kit with 2 bend restrictors 5/16"

TU95: 3/8" nylon tubing. It is not recommended in the applications where the total tubing run exceeds 50 ft (15 m). Not recommended for use with UC128-OBF and UC128-SVS cylinders

KIT 95 - 39516 G: 3/8" copper tube fitting kit. It includes two 1.6 ft (0,5 m) nylon tubes and all necessary fittings for a single station application.

KIT 100 - 39517 J: 10 mm copper tube fitting kit. It includes 1.6 ft (0,5 m) nylon tubes and all necessary fittings for a single station application.

KIT 2M-5/16

KIT 95-2S - 39518 L: Fitting kit for a second steering station or for an autopilot installation. It includes all necessary fittings for 3/8" nylon or copper tube.

KIT 100-2S - 39519 N: Fitting kit for a second steering station or for an autopilot installation. It includes all necessary fittings for 10 mm nylon or copper tube.

KIT 120U-2S - 41625 A: Fitting kit for a second steering station or for an autopilot installation.
It includes all necessary fittings for 12 mm copper tube.

KIT 95-KIT 100

KIT 95-2S - KIT 100-2S - KIT 120U-2S

ACCESSORIES

BP 95 - 39520 X:
By-pass for 3/8" nylon tube.

BP 95

OIL 15 - 70704 K:
Sold in 1 litre (0.26 gallons) container

- Hydraulic oil: IS0 VG 15
- Viscosity: 15 cst a 40 °C
- Viscosity index: <100
- Solidification point: <- 30 °C

OIL 15

KIT F - 39664 Y:
Remote fill adapter for rear mount and tilt mount pumps.

KIT F

FITTINGS

61BCA - 71004 K
3/8" (9,5 mm) nut and sleeve assembly, brass

61CA - 71013 L
3/8" (9,5 mm) nut and sleeve assembly, nickel plated

AF45 - 41284 A
45° adjustable fitting, helm and tube.
Suitable for SilverSteer™ system **only**.

SF38 - 39471 L
3/8" (9,5 mm) connector fitting, helm and tube

SF12 - 41306 H
straight fitting, helm and tube Ø 12 mm

EF38 - 39472 N
3/8" (9,5 mm) elbow fitting, helm and tube

TF38 - 39502 V
3/8" (9,5 mm) union T for tube

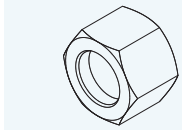
VF38 - 39503 X
3/8" (9,5 mm) bleed T for cylinder, brass

VFN38 - 39925 A
3/8" (9,5 mm) bleed T for cylinder, nickel plated

VFNO38 - 40868 Y
3/8" (9,5 mm) adjustable bleed T for cylinder, nickel plated, for all cylinders except UC94-OBF with serial number prior to 30 1156 000001

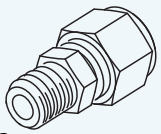
QCFN - 41307 K
Quick connect bleed T for cylinder, nickel plated, for all cylinders except UC94-OBF with serial number prior to 30 1156 000001

QCFN94 - 41308 M
Quick connect bleed T for cylinder, nickel plated with DN5 quick connect,
for UC94-OBF cylinders with serial number prior to 30 1156 000001


61BCA - 61CA

AF45

SF38

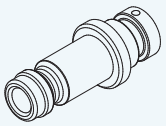

SF12

EF38

TF38

VF38 - VFN38

VFNO38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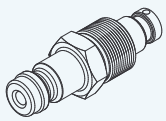

QCFN94

BubbleBuster™
A PORTABLE DEVICE FOR AUTOMATIC FILLING AND PURGING OF HYDRAULIC SYSTEMS

Reduce time and simplify purging hydraulic steering systems with the self contained and portable BubbleBuster™ purging unit.

Attach the hoses using the quick connect fittings to the helm and cylinder and with the push of a button the BubbleBuster™ begins cycling oil throughout the entire systems free of air.

The system features a ZeroEmulsion pump, a 4 quart capacity reservoir and is compatible with competing helms and cylinders.

BubbleBuster™

COMPONENTS INCLUDED

- No. 1 motor pump with safety valve , switch and 5 litres (1 gal) tank included, it allows the purging of 2 hydraulic steering systems before refilling. 12V electric motor with thermal protection; current absorption 8 A
- No. 1 4m (13') electric harness with alligator clips for fast connection with the battery.
- No. 1 double spiralled hose to connect to helm pump. Extended length: 6m (19,6')
- No. 1 double spiralled hose to connect to cylinder. Extended length: 6m (19,6')
- No. 1 utility tray

OPTIONAL COMPONENTS

- **KBE1**: No. 1 double spiralled hose to connect to cylinder 15 m (49') extension
- **KBD2**: No. 1 kit for double cylinder systems filling and purge
- **KH94**: Connection kit for UC94-OBF cylinders with old bleeders (not fast connect)
- **KH128**: Connection kit for cylinders (except UC94) with old bleeders (not fast connect)

MODEL	P. No.	DESCRIPTION
BB	41666 R	BubbleBuster™ - complete set
KBE1	41682 N	Extension kit
KBD2	41703 U	Double cylinder purging kit
KH94	41899 R	Connection kit for UC94-OBF cylinder with old fittings
KH128	41900 W	Connection kit for cylinders with old fittings (except UC94)

STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Thermoplastic antishock material
- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

HARD TOUCH GRIP

V32 - 35458 X Black
V32W - 35509 R White
V32G - 39282 H Grey
V33 - 35819 L Black
V33W - 35817 H White
V33G - 37495 J Grey

V32 Ø 335 mm (13.8")

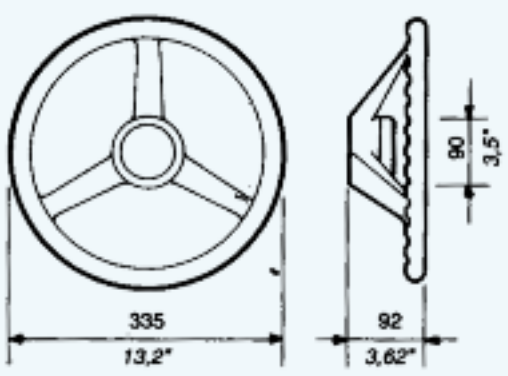
V32W Ø 335 mm (13.8")

V32G Ø 335 mm (13.8")

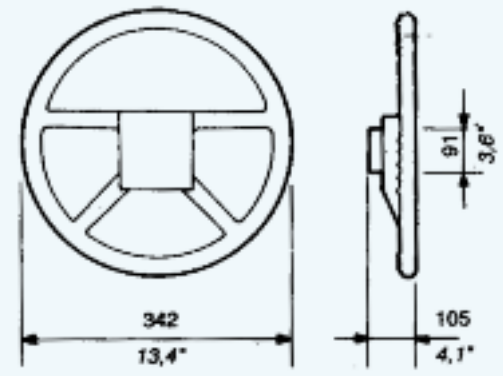
V33 Ø 342 mm (13.8")

V33W Ø 342 mm (13.8")

V33G Ø 342 mm (13.8")



V32



V33

CE

STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

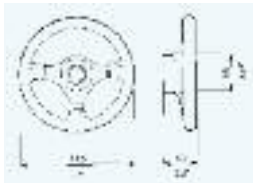
- Thermoplastic antishock material
- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

SOFT TOUCH GRIP REDUCED DIMENSION:

V45 - 37920 H Black
V45W - 38049 P White
V45G - 39291 J Grey

SOFT TOUCH GRIP

V38 - 36517 Q
V38W - 37373 T
V38G/W - 37387 G
V40 - 37374 U



V45

V45 Ø 280 mm (13.2")

V45W Ø 280 mm (13.2")

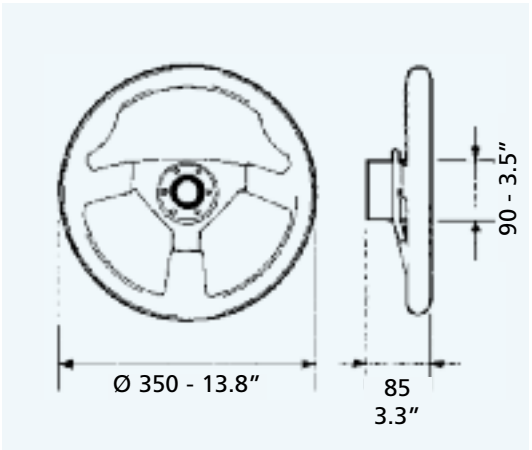
V45G Ø 280 mm (13.2")

V38 Black grip - Black spokes
Ø 350 mm (13.8")

V38W White grip - White spokes
Ø 350 mm (13.8")

V38G/W Grey grip - White spokes
Ø 350 mm (13.8")

V40 Black - Center pad - Ø 350 mm (13.8")



V38/V40

ANTIGUA STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Thermoplastic antishock material
- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

SOFT TOUCH GRIP

V60B	- 39189 U
V60W	- 39190 C
V60G	- 39274 J
V60 brc	- 39289 Y

BURL WOOD GRIP

V61BR	- 39191 E

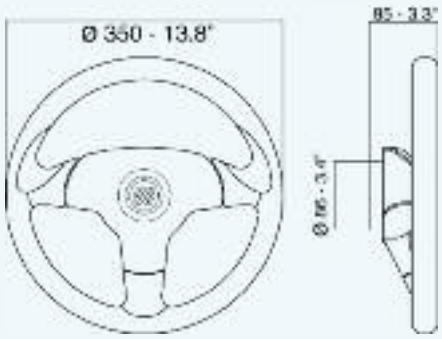
V60B Black grip - Black spokes
Ø 350 mm (13.8")

V60W White grip - White spokes
Ø 350 mm (13.8")

V60G Grey grip - Grey spokes
Ø 350 mm (13.8")

V60 brc Black grip - Black spokes
Burl wood cap - Ø 350 mm (13.8")

V61BR Burl wood grip - Black spokes
Ø 350 mm (13.8")



V60 and V61

All Antigua steering wheels are provided with an exclusive hub that easily allows the steering wheel to always be aligned properly.

CE

CORSICA STEERING WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

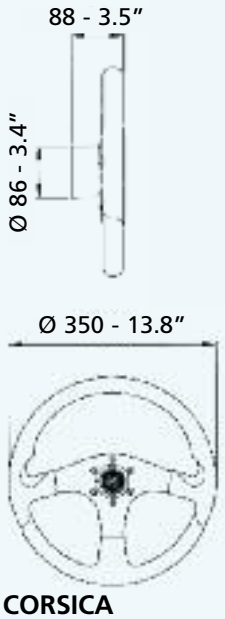
- Standard 3/4'' taper
- Meet with the EN 28848 and ABYC P22 standards
- **X63** - 40119 D hub with button (to be ordered separately)

SOFT TOUCH GRIP

CORSICA B/S - 38333 O
CORSICA B/B - 38332 N
CORSICA W/S - 38334 P
CORSICA G/S - 38393 H

BURL WOOD GRIP

CORSICA BR/B - 38647 T
CORSICA BR/S - 38684 Z



CORSICA

CORSICA B/S Black grip - Silver spokes Ø 350 mm (13.8")

CORSICA B/B Black grip - Black spokes Ø 350 mm (13.8")

CORSICA W/S White grip - Silver spokes Ø 350 mm (13.8")

CORSICA G/S Grey grip - Silver spokes Ø 350 mm (13.8")

CORSICA BR/B Burl wood grip Black spokes - Ø 350 mm (13.8")

CORSICA BR/S Burl wood grip Silver spokes - Ø 350 mm (13.8")

X63

CE

POLYURETHANE STEERING WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Meet with the EN 28848 and ABYC P22 standards
- **X63** - 40119 D hub with button (to be ordered separately)

POLYURETHANE GRIP

NISIDA B/B - 61812M
NISIDA B/S - 61813 P
PALMARIA B/B - 63727H
LAVEZZI B/S - 65295 R

POLYURETHANE GRIP WITH INSERTS

SANTORINI B/S - 65995 W
SPARGI S/S - 61984 U

NISIDA B/B Black grip - Black spokes Ø 350 mm (13.8")

NISIDA B/S Black grip - Silver spokes Ø 350 mm (13.8")

PALMARIA B/B Black grip Black spokes - Ø 350 mm (13.8")

SANTORINI B/S Silver inserts - Silver spokes - Ø 350 mm (13.8")

SPARGI S/S Silver inserts Silver spokes - Ø 350 mm (13.8")

LAVEZZI B/S Black grip Silver spokes - Ø 360 mm (14.1")

CE

POLYURETHANE STEERING WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Meet with the EN 28848 and ABYC P22 standards
- **X63** - 40119 D hub with button (to be ordered separately)

POLYURETHANE GRIP

PONZA S/S - 61816 W
TAVOLARA B/S - 65277 N
TAVOLARA C/S - 65797 S

POLYURETHANE GRIP WITH INSERTS

LINOSA S/S - 64295 K
LINOSA S/P - 65274 G

PONZA S/S Silver painted grip
Silver spokes - Ø 350 mm (13.8")

LINOSA S/S Silver inserts
Silver spokes - Ø 350 mm (13.8")

LINOSA S/P Silver inserts
Polished spokes Ø 350 mm (13.8")

TAVOLARA B/S Black grip
Silver spokes - Ø 350 mm (13.8")

TAVOLARA C/S Cream grip
Silver spokes - Ø 350 mm (13.8")

X63

POLYURETHANE STEERING WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Meet with the EN 28848 and ABYC P22 standards
- **X63** - 40119 D hub with button (to be ordered separately)

POLYURETHANE GRIP WITH INSERTS

BUDELLI CH/P - 65294 N
BUDELLI CH/C/P - 66001 Z
BUDELLI CH/S - 65293 L

VIVARA CH/P - 64643 G
VIVARA CH/B - 64644 J

BUDELLI CH/P Chrome inserts
Polished spokes - Ø 350 mm (13.8")

BUDELLI CH/C/P Chrome inserts
Polished spokes - Ø 350 mm (13.8")

BUDELLI CH/S Chrome inserts
Silver spokes - Ø 350 mm (13.8")

VIVARA CH/P Chrome inserts
Polished spokes - Ø 350 mm (13.8")

VIVARA CH/B Chrome inserts - Black spokes
Chrome center ring - Ø 350 mm (13.8")

X63

CE

WOOD WHEELS

All UFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Meet with the EN 28848 and ABYC P22 standards
- **X63** - 40119 D hub with button (to be ordered separately)

MAHOGANY GRIP

SALINA	- 62799 E
LAMPEDUSA	- 62684 L
ALICUDI	- 62682 G

WOOD GRIP, REDUCED DIMENSION

CAPRI	- 62465 Y

NON MAGNETIC STAINLESS STEELL WHEELS

POLYURETHANE "FIRM GRIP"

V21B - 42328 Z
V21W - 42324 R

NATURAL TEAK GRIP

V21TK - 42325 T

SALINA Ø 360 mm (14.1")

LAMPEDUSA Ø 360 mm (14.1")

ALICUDI Ø 350 mm (13.8")

CAPRI Ø 320 mm (12.6")

V21B Ø 350 mm (13.8")

V21W Ø 350 mm (13.8")

V21TK Ø 350 mm (13.8")

NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP

V25B - 40640 R black
V25W - 40642 V white
V25G - 40641 T grey

MAHOGANY GRIP

V26 - 40644 Z

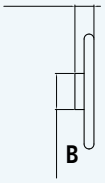
STAINLESS STEEL GRIP

V21 - 42121 A
V27 - 40643 X

STAINLESS STEEL GRIP POLYURETHANE INSERTS

V22 - 42122 C

KNOB21 - 40677 R



MOD.	B mm (")
V21	64 (2.5)
V22	91 (3.6)
V25	57 (2.2)
V26	57 (2.2)
V27	57 (2.2)
V28	57 (2.2)

CE

V25B Ø 350 mm (13.8")

V25W Ø 350 mm (13.8")

V25G Ø 350 mm (13.8")

V26 Ø 350 mm (13.8")

V27 Ø 350 mm (13.8")

V21 Ø 350 mm (13.8")

V22 Ø 350 mm (13.8")

KNOB21
Speed knob for V21 and V22 wheels

NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP

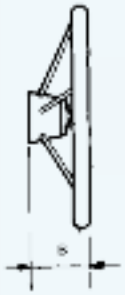
V01 - 41687 Z black
V02 - 41688 B white
V03 - 41689 D grey
V04 - 41690 M blu navy

NATURAL TEAK GRIP

V05TK - 42120 Y

STAINLESS STEEL GRIP

V06 - 41692 S



MOD.	B mm (")
V01	67 (2.6)
V02	67 (2.6)
V03	67 (2.6)
V04	67 (2.6)
V05TK	67 (2.6)
V06	67 (2.6)

CE

V01 Ø 350 mm (13.8")

V02 Ø 350 mm (13.8")

V03 Ø 350 mm (13.8")

V04 Ø 350 mm (13.8")

V05TK Ø 350 mm (13.8")

V06 Ø 350 mm (13.8")

NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP

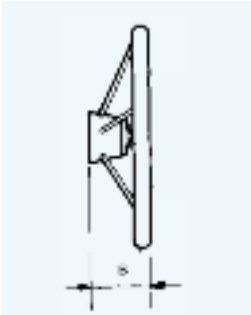
V10 - 41693 U black
V11 - 41694 W white
V12 - 41695 Y grey
V13 - 41696 A ocra

POLISHED TEAK GRIP

V14 - 41697 C
V15 - 41698 E

STAINLESS STEEL GRIP

V16 - 41699 G
V17 - 41700 M



MOD.	B mm (")
V10	67 (2.6)
V11	67 (2.6)
V12	67 (2.6)
V13	67 (2.6)
V14	67 (2.6)
V15	73 (2.9)
V16	67 (2.6)
V17	73 (2.9)

CE

V10 Ø 350 mm (13.8")

V11 Ø 350 mm (13.8")

V12 Ø 350 mm (13.8")

V13 Ø 350 mm (13.8")

V14 Ø 350 mm (13.8")
V15 Ø 400 mm (15.7")

V16 Ø 350 mm (13.8")
V17 Ø 400 mm (15.7")

NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

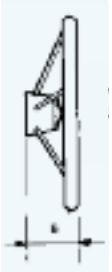
STAINLESS STEEL GRIP

V23 - 32397 D
V35 - 31602 H
V65 - 39436 J

POLYURETHANE GRIP

V52B - 40631 P black
V52W - 40633 U white
V52G - 40632 S grey

V57B - 38155 O black
V57W - 38157 Q white
V57G - 38156 P grey



MOD.	B mm (")
V23	110 (4.3)
V35	100 (3.9)
V52	73 (2.9)
V57	76 (3.0)
V65	73 (2.9)

CE

V35 Ø 345 mm (13.6") - V23 Ø 400 mm (15.7")

V65 Ø 370 mm (14.5")

V52B Ø 320 mm (12.6")

V52W Ø 320 mm (12.6")

V52G Ø 320 mm (12.6")

V57B Ø 350 mm (13.8")

V57W Ø 350 mm (13.8")

V57G Ø 350 mm (13.8")

NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

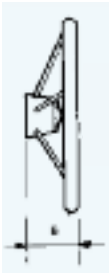
- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

EXCLUSIVE POLYURETHANE "FIRM GRIP"

V70B - 39442 D black
V70W - 39929 J white
V70G - 39441 B grey

POLYURETHANE GRIP

V58G - 38650 F grey
V53B - 40634 W black
V53G - 40635 Y grey



MOD.	B mm (")
V53	56 (2.2)
V58	78 (3.0)
V70	90 (3.5)

V70B Ø 350 mm (13.8")

V70W Ø 350 mm (13.8")

V70G Ø 350 mm (13.8")

V58G Ø 400 mm (15.7")

V53B Ø 450 mm (17.7")

V53G Ø 450 mm (17.7")

CE

NON MAGNETIC STAINLESS STEEL WHEELS

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

MAHOGANY GRIP

V62 - 39263 D
V63 - 39264 F
V66 - 39424 B
V67 - 39425 D

KNOB67 - 40677 R

V80 - 41683 R

NATURAL OAK GRIP

V82 - 41685 V

MOD.	B mm (")
V62	104 (4.1)
V63	108 (4.3)
V66	80 (3.1)
V67	100 (3.9)
V80	70 (2.8)
V82	70 (2.8)

CE

V62 Ø 350 mm (13.8")

V66 Ø 350 mm (13.8")

V67 Ø 400 mm (15.7") - V63 Ø 450 mm (17.7")

KNOB67
Speed knob for V63 and V67 wheels

V80 Ø 350 mm (13.8")

V82 Ø 350 mm (13.8")

NON MAGNETIC STAINLESS STEEL WHEELS

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All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

MAHOGANY GRIP

V74 - 41115 A
V75 - 41116 C
V76 - 41117 E

POLISHED TEAK GRIP

V71 - 41112 U
V72 - 41113 W
V73 - 41114 Y

NATURAL TEAK GRIP

V77 - 41152 G
V78 - 41153 J
V79 - 41154 L

CAPTAIN'S WHEELS

V89 - 40721 R

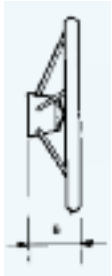
V90 - 39931 V
V91 - 39932 X
V92 - 39933 Z

V93 - 40645 B
KNOB93 - 40647 F

V74 Ø 400 mm (15.7")
V75 Ø 450 mm (17.7") - V76 Ø 500 mm (19.6")

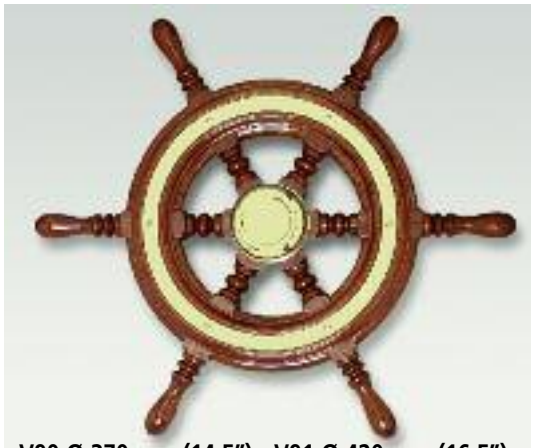
V71 Ø 400 mm (15.7")
V72 Ø 450 mm (17.7") - V73 Ø 500 mm (19.6")

V77 Ø 400 mm (15.7")
V78 Ø 450 mm (17.7") - V79 Ø 500 mm (19.6")



MOD.	B mm (")
V71	63 (2.5)
V72	63 (2.5)
V73	63 (2.5)
V74	63 (2.5)
V75	63 (2.5)
V76	63 (2.5)
V77	63 (2.5)
V78	63 (2.5)
V79	63 (2.5)

V89 Ø 500 mm (19.6")



V90 Ø 370 mm (14.5") - V91 Ø 420 mm (16.5")
V92 Ø 490 mm (19.3")

V93 Ø 460 mm (18.1")

KNOB93
Folding knob
for V93 wheels

CE

"VERO VOLANTE ITALIANO"

IS THE REGISTERED TRADEMARK WHICH DISTINGUISHES THE STEERING WHEELS FOR PLEASURE BOATS PRODUCED BY ULTRAFLEX

VERO VOLANTE ITALIANO

BOCCANEGRA STEERING WHEELS

"VERO VOLANTE ITALIANO" is the registered trademark which distinguishes the steering wheels for pleasure boats produced by Ultraflex. They are conceived by Italian designers, engineered and manufactured in Italy by employing genuine Italian components and technologies according to Ultraflex quality management system.

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

LEATHER GRIP AND HUB

BOCCANEGRA W - 67295 B white

LEATHER GRIP PAINTED HUB

BOCCANEGRA SB - 67296 D sky-blue

Boccanegra W - Ø 350 mm (13.8")

Boccanegra SB - Ø 350 mm (13.8")

CHRISTIAN GRANDE Design Roma

CE

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

MOROSINI STEERING WHEELS

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- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

LEATHER GRIP AND HUB

MOROSINI SEA - 67301 T

CHRISTIAN GRANDE DesignWorks

Morosini Sea - Ø 350 mm (13.8")

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

MOROSINI STEERING WHEELS

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- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

LEATHER GRIP, CHROME HUB

MOROSINI B/CH - 67297 F
MOROSINI G/CH - 67300 R

POLYURETHANE GRIP, CHROME HUB

MOROSINI PU B/CH - 67461 S

CHRISTIAN GRANDE
Design Roma

Morosini B/CH - Ø 350 mm (13.8")

Morosini G/CH - Ø 350 mm (13.8")

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All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

MOROSINI STEERING WHEELS

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- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

LEATHER GRIP, PAINTED HUB

MOROSINI W	- 67298 H
MOROSINI C	- 67299 K

CHRISTIANGRANDE DesignWorks

Morosini W - Ø 350 mm (13.8")

Morosini C - Ø 350 mm (13.8")

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

FOSCARI STEERING WHEELS

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- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

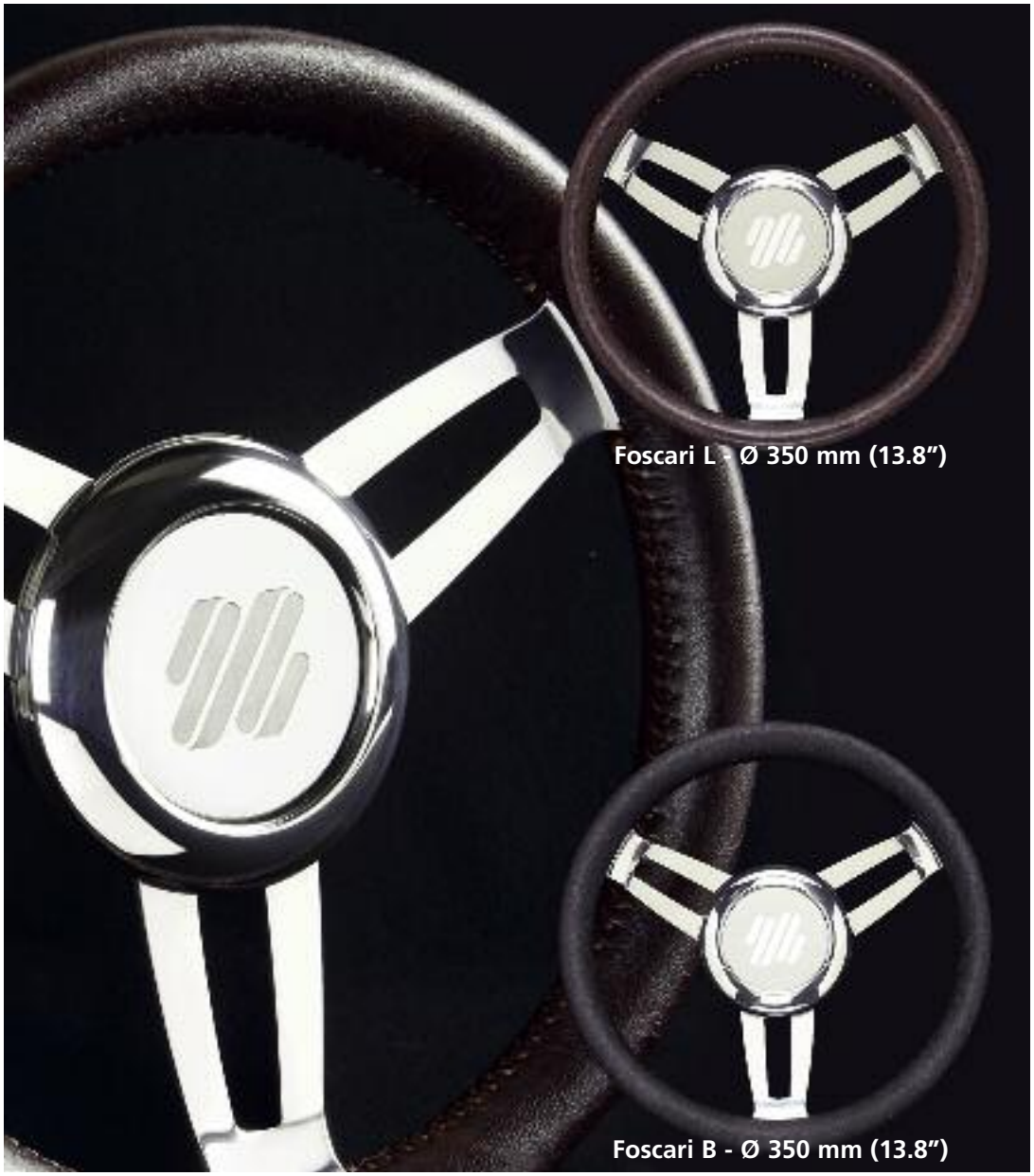
POLYURETHANE GRIP

FOSCARI B	- 67303 X
FOSCARI W	- 67302 V
FOSCARI C	- 67304 Z

SKY GRIP

FOSCARI L	- 67305 B

CHRISTIAN GRANDE
Design Roma



CE

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

DORIA STEERING WHEEL

"VERO VOLANTE ITALIANO" is the registered trademark which distinguishes the steering wheels for pleasure boats produced by Ultraflex. They are conceived by Italian designers, engineered and manufactured in Italy by employing genuine Italian components and technologies according to Ultraflex quality management system.

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP WITH INSERTS

DORIA B/R - 67309 K
DORIA C/W - 67479 M

Doria B/R - Ø 350 mm (13.8")

Doria C/W - Ø 350 mm (13.8")

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

DORIA STEERING WHEEL

"VERO VOLANTE ITALIANO" is the registered trademark which distinguishes the steering wheels for pleasure boats produced by Ultraflex. They are conceived by Italian designers, engineered and manufactured in Italy by employing genuine Italian components and technologies according to Ultraflex quality management system.

- Standard 3/4'' taper
- Hub included
- Meet with the EN 28848 and ABYC P22 standards

POLYURETHANE GRIP WITH INSERTS

DORIA B/B - 67465 A
DORIA W/W - 67728 G

Doria B/B - Ø 350 mm (13.8")

Doria W/W - Ø 350 mm (13.8")

All ULTRAFLEX steering wheels meet the EEC directive 94/25 requirements about pleasure boats.
All steering wheels are CE marked in conformity with the EN 28848 – EN 29775 and ABYC P22 safety standards

VERO VOLANTE ITALIANO

SINGLE LEVER SIDE MOUNT CONTROLS

Featuring AISI 316 stainless steel lever and bezel, the B400 has a sleek and modern design which is ideal for sailboats. The B400 has universal control mechanism that allows for both "push" or "pull" for throttle and shift, push button warm up, and will accept 33C style cables, as well as BRP®, Mercury® Gen I and Gen II cables with optional adapters.
Available in mechanical version or hybrid version (patented) to control the shift by a mechanical cable and the throttle via 0-5V electric signal.

B400

B401-ETC

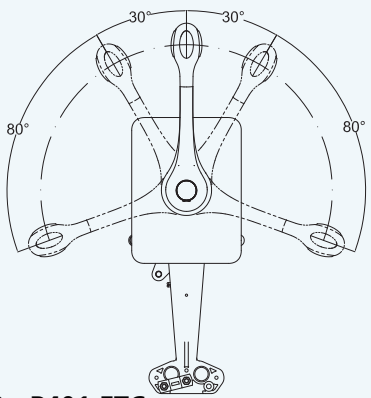
FEATURES

- 316 stainless steel lever and flange for a better resistance in the marine environment
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Can be installed horizontally or vertically, on the starboard or port side of the boat
- Provided with a brake tension release system easily adjustable
- Push-in button for throttle operation in Neutral (ENGINE WARM UP).
- Neutral safety switch **X41** - 38130 F (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when **X41** safety switch is installed
- The **B401-ETC hybrid version** (patented) can control the shift with a mechanical cable and the throttle via 0-5V electric signal. The output signal can be set by the installer; the setting can be simply operated through dip-switches placed under the control box.
- For use with all Ultraflex engine control cables except C22:
  - Ultraflex C2, C8, MACHZero cables require no kit
  - Ultraflex C14, MACH14 cables require **K71** - 42082 T connection kit
  - Ultraflex C5, C16. MACH5 cables require **K72** - 42083 V connection kit
  - Ultraflex C36, MACH36 cables require **K73** - 42084 X connection kit

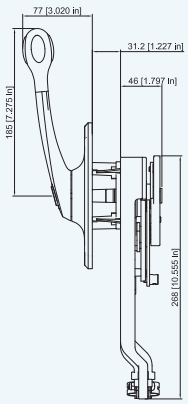
MODELS

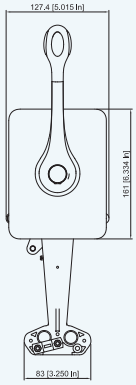
B400 - 42076 Y Fully mechanical version

B401-ETC - 42077 A Hybrid version



B400 - B401-ETC





SINGLE LEVER
SIDE MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Can be installed horizontally or vertically, on the starboard or port side of the boat
- Provided with a brake tension release system adjustable from outside
- Pull-out handle disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- All models are provided with positive lock-in neutral to prevent accidental gear engagement
- All models are provided with a power trim switch conveniently located in the handle grip that enables an easy tilting of the engine
- For use with all Ultraflex engine control cables except C22, C36 and MACH36.
- Ultraflex C5, C16 and MACH5 cables require **K35** - 34730 U connection kit

B310CH

B310BR

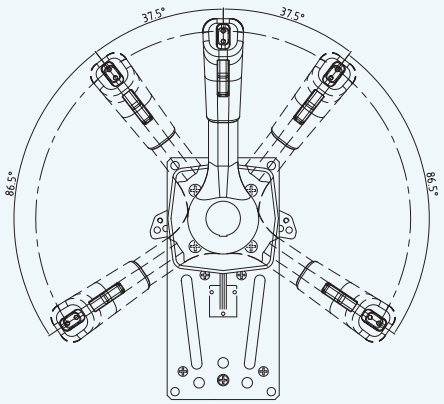
B310B

MODELS

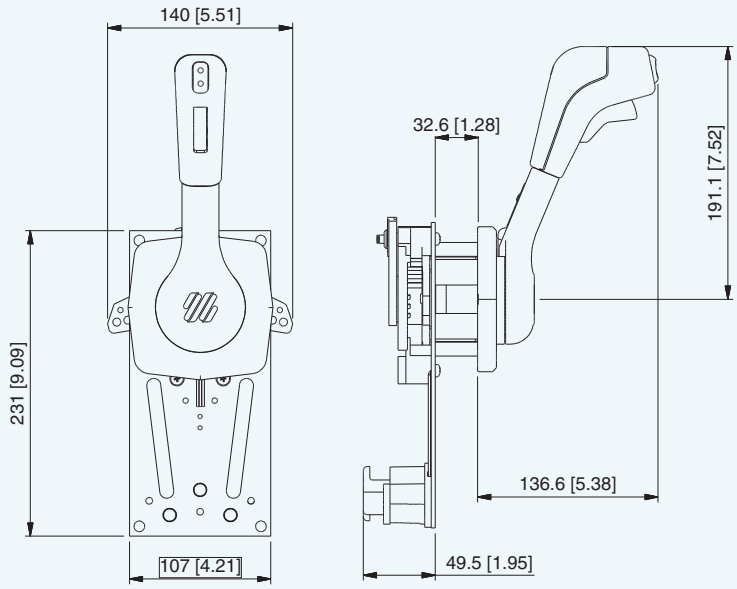
B310CH - 41789 H
Provided with a positive lock-in neutral and trim switch

B310BR - 41788 F
Provided with a positive lock-in neutral and trim switch

B310B - 41790 S
Provided with a positive lock-in neutral and trim switch



B310CH - B310BR - B310B



B310CH - B310BR - B310B

SINGLE LEVER SIDE MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Can be installed horizontally or vertically, on the starboard or port side of the boat
- Provided with a brake tension release system adjustable from outside
- Pull-out handle disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- All models are provided with positive lock-in neutral to prevent accidental gear engagement
- B184 model is provided with a power trim switch conveniently located in the handle grip that enables an easy tilting of the engine
- For use with all Ultraflex engine control cables except C4 (discontinued) , C22, C36 and MACH36.
- Ultraflex C5, C16 and MACH5 cables require **K35** - 34730 U connection kit

B183

B184

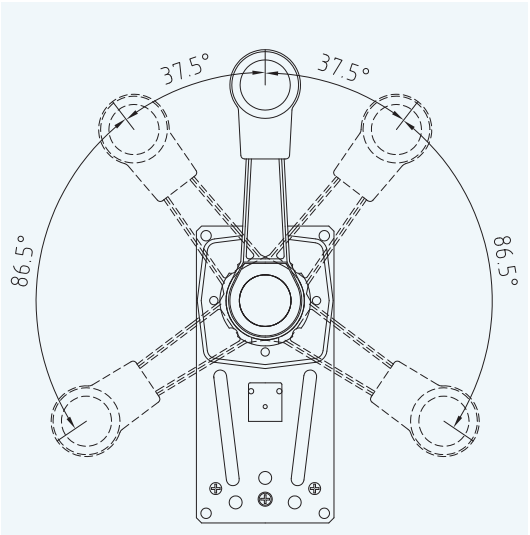
B85

MODELS

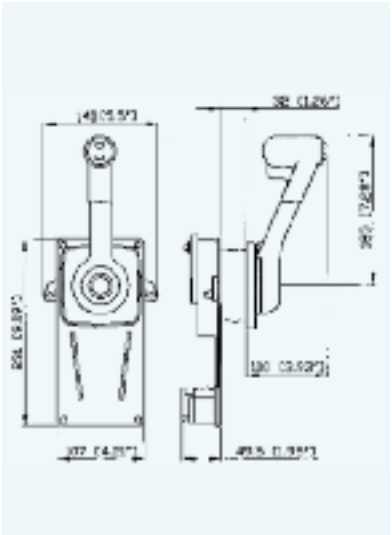
B183 - 38945 B
Provided with a positive lock-in neutral

B184 - 38946 D
Provided with a positive lock-in neutral and trim switch

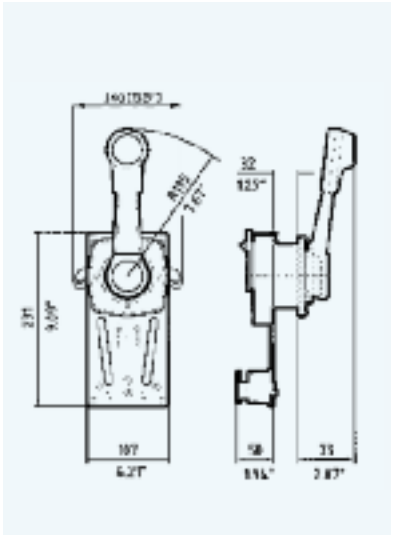
B85 - 35682 I
Standard model, smooth design for use on sailboats. Provided with a positive lock-in neutral



B85 - B183 - B184



B183 - B184



B85

SINGLE LEVER SIDE MOUNT CONTROLS

B89

B90

Single lever / dual action control to operate both throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

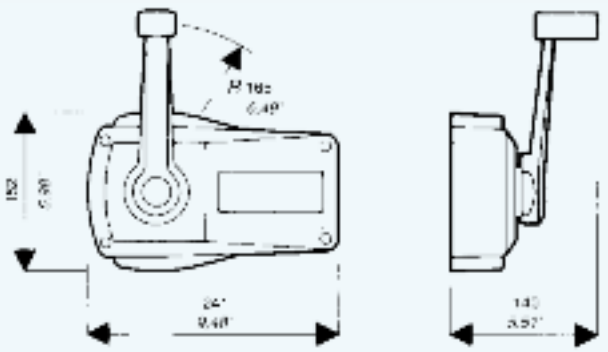
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Can be installed horizontally or vertically, on the starboard or port side of the boat
- Made of painted marine aluminum
- Pull-out handle disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Provided with a positive lock-in neutral to prevent accidental gear engagement
- For use with all Ultraflex engine control cables except C4 (discontinued), C22, C36 and MACH36.
- Ultraflex C5, C16 and MACH5 cables require **K35** - 34730 U connection kit.
- To connect C14 and MACH14 cables to engine, use **K51** - 32526 N connection kit.

MODELS

B89 - 36151 G
Ivory finish with positive lock-in neutral.

B90 - 36152 H
Black finish with positive lock-in neutral.

Lock-in neutral



"LOW PROFILE" SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both with throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Compact single lever controls offering a unique low profile style compared to other controls available on the market
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of marine aluminum, chrome plated or powder coat finish
- Push in button disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- For use with all Ultraflex control cables except C4 (discontinued):
  - C14 and MACH14 cables require no kit
  - for C2, C8 and MACHZero cables the connection kit **K59** - 40144 C is included
  - C5, C16 and MACH5 cables require **K60** Kit - 40145 E
  - C36 and MACH36 cables require **K62** Kit - 40157 J
  - C22 cable requires **K61** Kit - 40146 G

B301CR

B302CR

2 X75 (OPTIONAL)

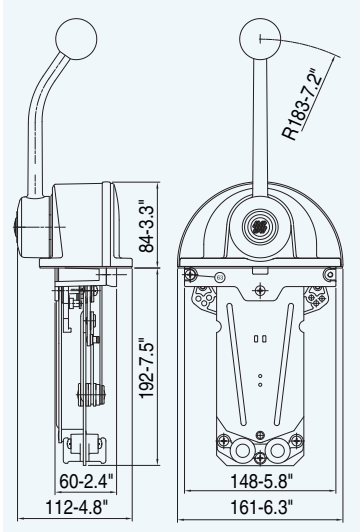
B302CR + 2 X75

MODELS

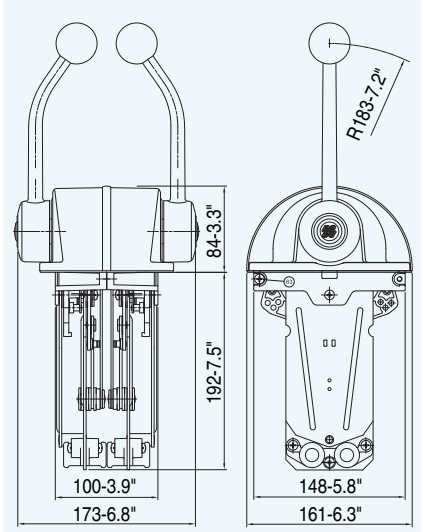
B301CR - 40140 U
Single lever control for one engine, chrome plated.

B302CR - 40141 W
Twin lever control for two engines, chrome plated.

X75 - 40662 B
Silver knob **optional**



B301



B302

"LOW PROFILE" SINGLE LEVER TOP MOUNT CONTROLS

B301B

B302B

Single lever / dual action control to operate both with throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Compact single lever controls offering a unique low profile style compared to other controls available on the market
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of marine aluminum, chrome plated or powder coat finish
- Push in button disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- For use with all Ultraflex control cables except C4 (discontinued):
  - C14 and MACH14 cables require no kit
  - for C2, C8 and MACHZero cables the connection kit is **K59** - 40144 C included
  - C5, C16 and MACH5 cables require **K60** Kit - 40145 E
  - C36 and MACH36 cables require **K62** Kit - 40157 J
  - C22 cable requires **K61** Kit - 40146 G

2 X75 (OPTIONAL)

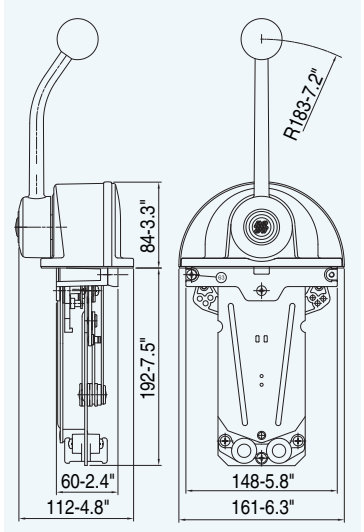
B302B + 2 X75

MODELS

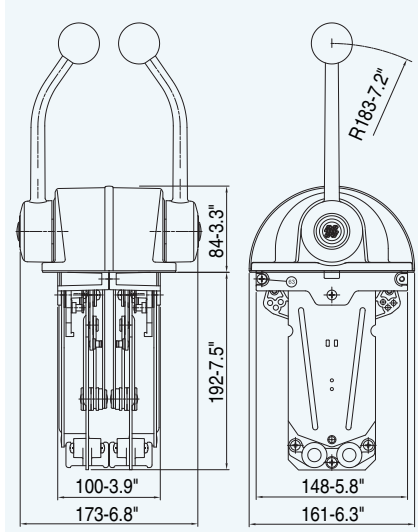
B301B - 40142 Y
Single lever control for one engine, black dome, chrome plated lever.

B302B - 40143 A
Twin lever control for two engines, black dome, chrome plated lever.

X75 - 40662 B
Silver knob **optional**



B301



B302

SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

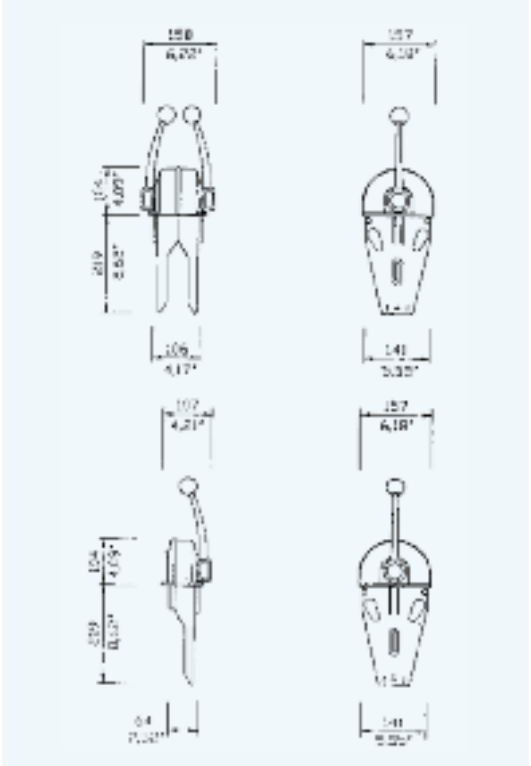
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of chrome plated marine aluminum
- Pull-out handle disengages shift for warm-up
- Neutral safety switch **X43** - 38160 L (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X43 safety switch is installed
- For use with C2, C8 and MACHZero Ultraflex engine control cables.
- To connect C22 cable to B103 control only, use **K33** - 38378 D connection kit

MODELS

B103 - 37923 K
Single lever control for one engine

B104 - 37924 L
Twin lever control for two engines

X55 - 39421 V - Silver knob **optional**



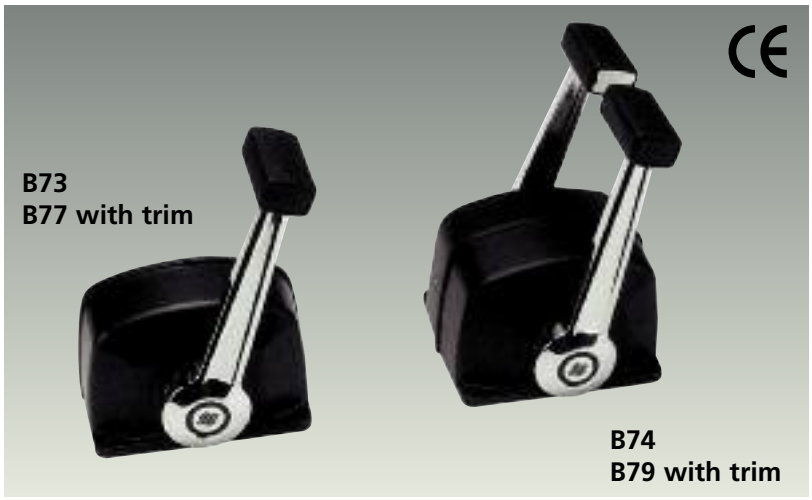
B103

B104

2 X55 (OPTIONAL)

B104 + 2 X55

SINGLE LEVER TOP MOUNT CONTROLS



Single lever / dual action control to operate both throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

FEATURES

- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of marine aluminum, chrome plated or powder coat finish
- Pull-out handle disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Power trim switch conveniently located in the handle grip enables for easy tilting of the engine
- For use with all Ultraflex engine control cables except C22, C4 (discontinued), C36 and MACH36.
- Ultraflex C5, C16 and MACH5 cables require **K35** kit - 34730 U

MODELS

B65 - 34731 V
Single lever control for one engine, chrome plated.

B76 - 35312 E
Single lever control for one engine, chrome plated, with trim.

B66 - 34732 W
Twin lever control for two engines, chrome plated.

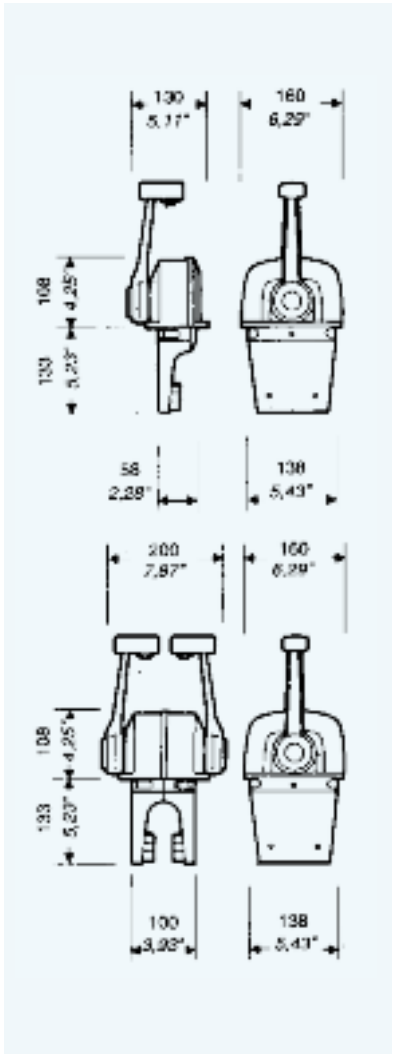
B78 - 35314 G
Twin lever control for two engines, chrome plated, with trim.

B73 -35007 U
Single lever control for one engine, black dome, chrome plated lever.

B77 - 35313 F
Single lever control for one engine, black dome, chrome plated lever, with trim.

B74 - 35008 B
Twin lever control for two engines, black dome, chrome plated lever.

B79 - 35315 H
Twin lever control for two engines, black dome, chrome plated lever, with trim.



Handle with trim

SINGLE LEVER TOP MOUNT CONTROLS

Single lever / dual action control to operate both throttle and shift.
Suitable for any type of boats with outboard, inboard or I/O power plants.

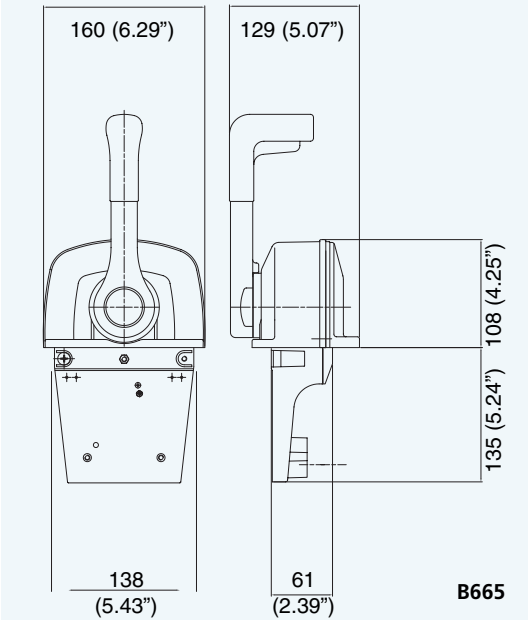
FEATURES

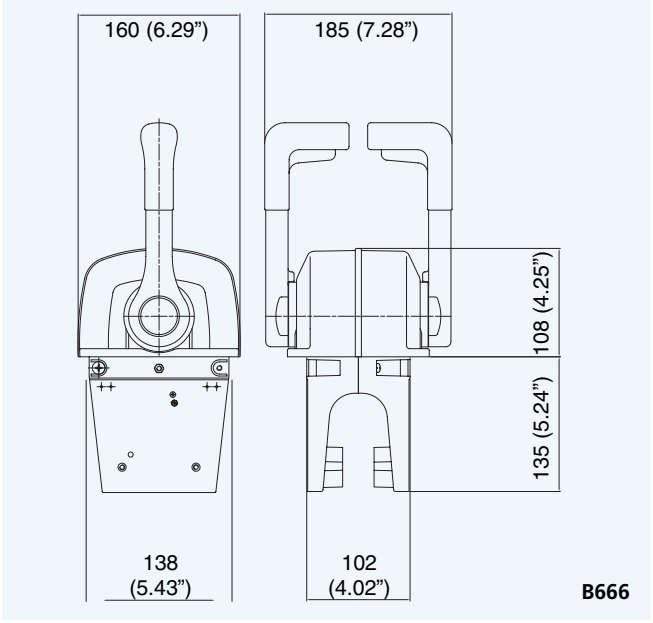
- Enables easy and safe shifting by preventing accidental gear engagement unless engine is idling
- Made of marine aluminum, chrome plated or powder coat finish
- Pull-out handle disengages shift for warm-up
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Provided with a positive lock-in neutral to prevent accidental gear engagement
- For use with all Ultraflex engine control cables except C22, C4 (discontinued) , C36 and MACH36.
  Ultraflex C5, C16 and MACH5 cables require **K35** kit - 34730 U

MODELS

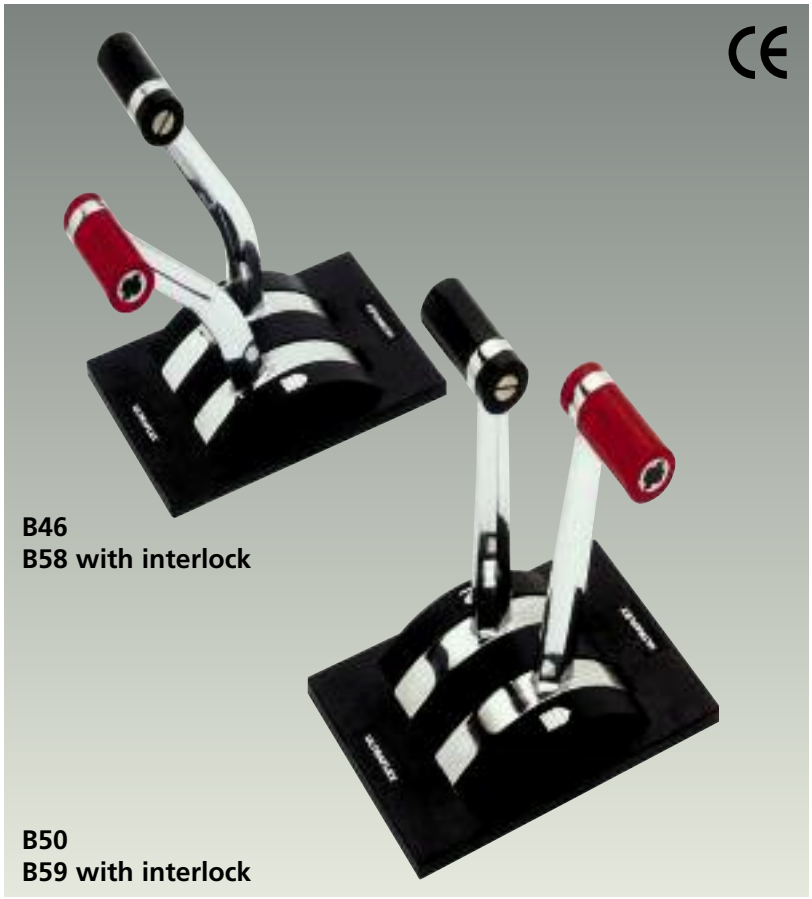
B665 - 40656 G
Single lever control for one engine. Chrome plated.

B666 - 40657 J
Twin lever control for two engines. Chrome plated.





TWO LEVER TOP MOUNT CONTROLS



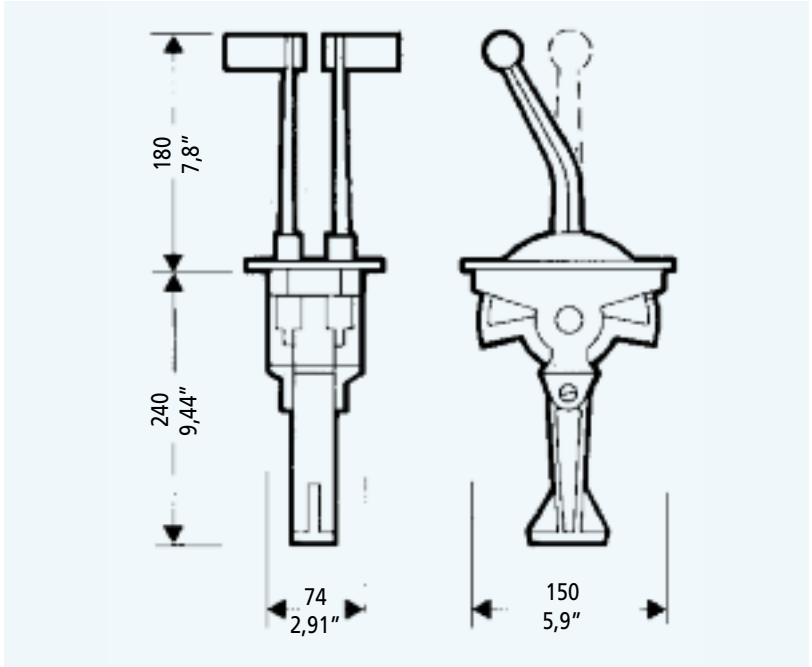
B46
B58 with interlock

B50
B59 with interlock

Two lever / single action control: each lever operates separately either the throttle or the shift.
Suitable for use with outboard, inboard or I/O power plants.

FEATURES

- Flush mount suitable for exposed positions such as flying bridge
- Made of marine aluminum with chrome plated lever
- Throttle lever is provided with adjustable brake tension release system and shift lever with forward, reverse and neutral detents. Both the brake tension release and detents can be installed and adjusted from the outside.
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Available with straight or bent levers
- B58 and B59 models are provided with an interlock kit to prevent accidental gear engagement
- For use with Ultraflex C2, C8 and MACHZero engine control cables.
- Ultraflex C22 cable requires **K22** - 34713 Q connection kit.



MODELS

BENT LEVERS:

B46	- 34461 P	Throttle and shift
B46T	- 34462 Q	Throttle only
B46S	- 34463 R	Shift only
B58R	- 34570 W	Throttle and shift. With interlock. Right hand installation
B58L	- 34716 T	Throttle and shift. With interlock. Left hand installation

STRAIGHT LEVERS:

B50	- 34464 S	Throttle and shift
B50T	- 34465 T	Throttle only
B50S	- 34466 U	Shift only
B59R	- 34571 X	Throttle and shift. With interlock. Right hand installation
B59L	- 34717 U	Throttle and shift. With interlock. Left hand installation

TWO LEVER TOP MOUNT CONTROLS

Two lever / single action control: each lever operates separately either the throttle or the shift.
Suitable for use with outboard, inboard or I/O power plants.

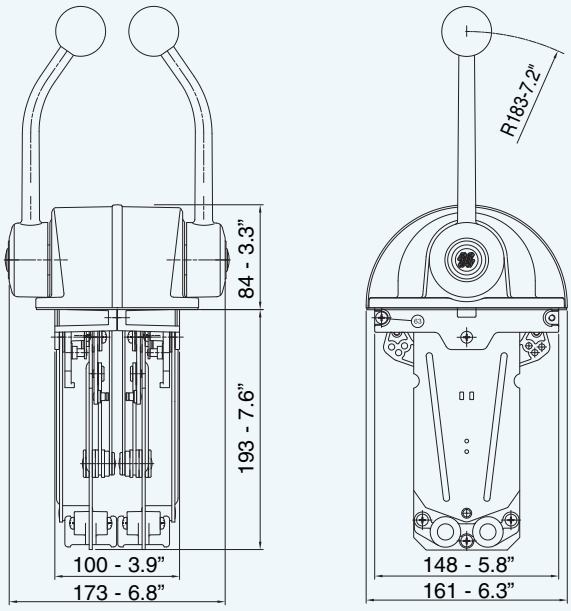
FEATURES

- Made of aluminium, chrome plated or black powder coat finish
- Throttle lever is provided with adjustable brake tension release system and shift lever with forward, reverse and neutral detents.
- Neutral safety switch **X12**-34543 Q (optional) prevents in-gear starting
- In dual station applications the **L23**-31649 B selector unit has to be used (page 110)
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Use with all Ultraflex control cables except C4 (discontinued):
  - C14 and MACH14 cables require no kit
  - For C2, C8 and MACHZero cables the connection kit **K67** - 40705 T is included
  - C5, C16 and MACH5 cables require **K63** kit - 40757 N
  - C22 cable requires **K64** kit - 40758 R
  - C36 and MACH36 cables require **K65** kit - 40759 T

MODELS

CHROME PLATED:
B322 - 40669 S Throttle and shift
B322T - 40670 A Throttle only
B322S - 40673 G Shift only

BLACK FINISH:
B324 - 40674 J Throttle and shift
B324T - 40675 L Throttle only
B324S - 40676 N Shift only



B322 - B324

TWO LEVER TOP MOUNT CONTROLS

Two lever / single action control: each lever operates separately either the throttle or the shift.
Suitable for use with outboard, inboard or I/O power plants.

B101 B102

FEATURES

- All the four versions are provided with the shift lever detents and with a brake tension release system adjustable from the outside of the throttle lever
- Neutral safety switch **X12** - 34543 Q (optional) prevents in-gear starting
- Exceeds EN ISO 11547 standards when X12 safety switch is installed
- Suitable for exposed positions such as flying bridge
- For use with Ultraflex C2, C8 and MACHZero engine control cables
- Ultraflex C22 cable requires **K32** - 34662 Z connection kit

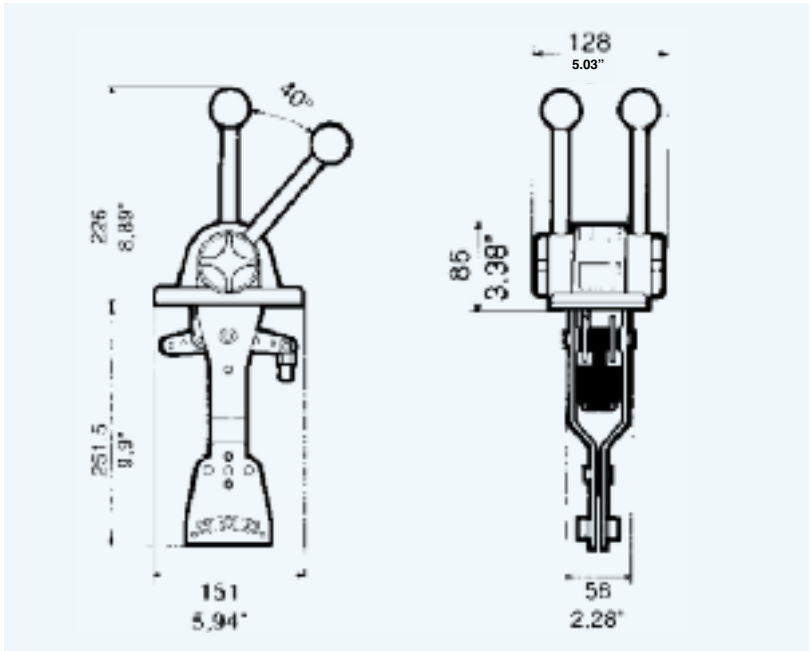
B99

MODELS

B99 - 36854 N
Throttle and shift. Black painted with chrome levers

B101 - 36856 P
Throttle and shift. White painted

B102 - 36899 G
Throttle and shift. Black painted



TWO LEVER SIDE MOUNT CONTROLS

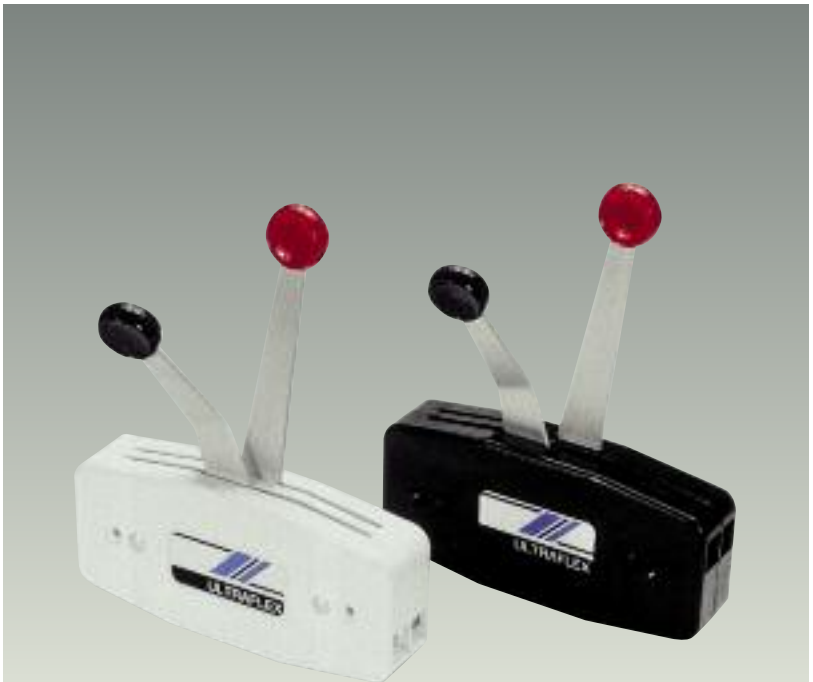
Suitable for all outboard engines.

FEATURES

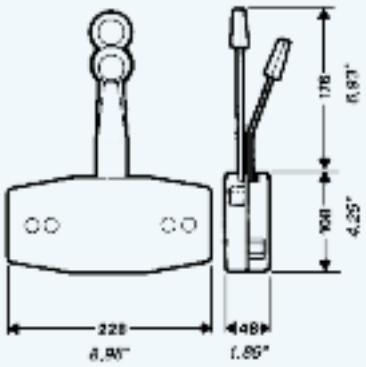
- Made of nylon fiberglass with anodized aluminum levers
- Left or right side mount installation
- For use with Ultraflex engine control cables:
  - C14 and MACH14 with **K23** - 32773 D connection kit
  - C2, C8, and MACHZero with **K25** - 32775 F connection kit
  - C5 and MACH5 without connection kit

MODELS

B47 - 32770 A - Light grey finish
B49 - 33283 S - Black finish



B47 **B49**

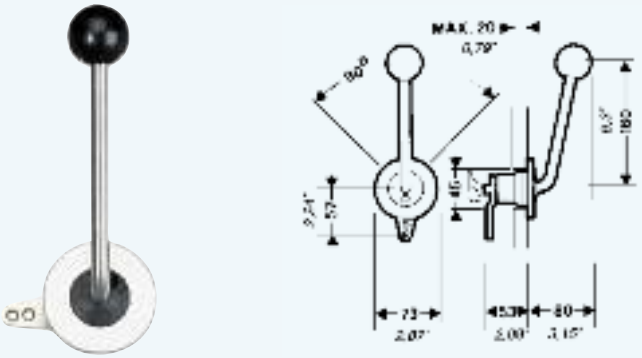


B47 - B49

B35 CONTROL BOX

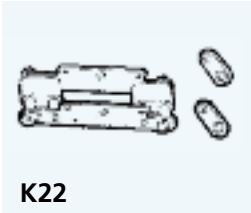
FEATURES

- Lever and flange all stainless steel.
- Flush side mount installation.
- Particulary suitable for throttle control and hydraulic shift operation.
- Provided with adjustable brake tension release and detents.
- For use with Ultraflex C2, C8 and MACHZero engine control cables
  B35 - 32386 A

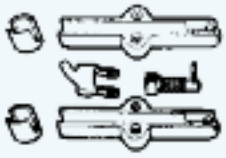


B35

ACCESSORIES FOR CONTROL BOXES



K22



K23

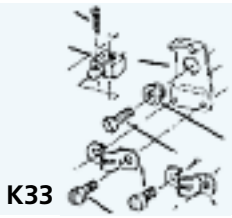
K25

K22 - 34713 Q
Kit to connect C22 cable to top mount two lever control boxes, B46, B50, B58, B59, B203, B204, B207, B208, B322, B324

K23 - 32773 D
Kit to connect C14 and MACH14 cables to B47 and B49 control boxes.

K25 - 32775 F
Kit to connect C2, C8 and MACHZero cables to B47 and B49 control boxes.

K32



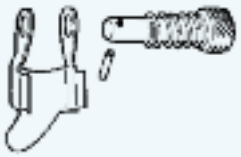
K33

K35

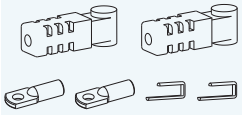
K32 - 34662 Z
Kit to connect C22 cable to top mount two lever control boxes B99 , B100, B101 and B102.

K33 - 38378 D
Kit to connect C22 cable to B103 control box.

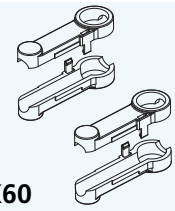
K35 - 34730 U
Kit to connect C5, C16 and MACH5 cables to single lever control boxes, except B301, B302, B103 and B104.



K51



K59

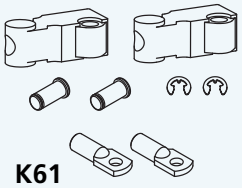


K60

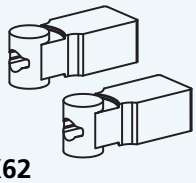
K51 - 32526 N
Kit to connect C14 and MACH14 cables to engine for use with B89 and B90 controls.

K59 - 40144 C
Kit to connect C2, C8 and MACHZero cables to B301 and B302 controls (supplied with the box).

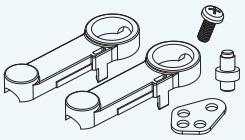
K60 – 40145 E
Kit to connect C5, C16 and MACH5 cables to B301 and B302 control boxes.



K61



K62

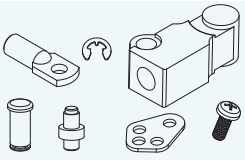


K63 PARTS SHOWN X 2

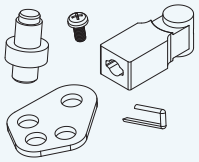
K61 – 40146 G
Kit to connect C22 cable to B301 and B302 control boxes.

K62 – 40147 J
Kit to connect C36 and MACH36 cables to B301 and B302 control boxes.

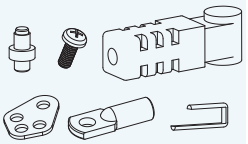
K63 - 40757 N
Kit to connect C5, C16, MACH5 cables to B322 and B324 controls.



K64 PARTS SHOWN X 2



K65 PARTS SHOWN X 2



K67 PARTS SHOWN X 2

K64 - 40758 R
Kit to connect C22 cable to B322 and B324 controls.

K65 - 40759 T
Kit to connect C36 and MACH36 cables to B322 and B324 controls.

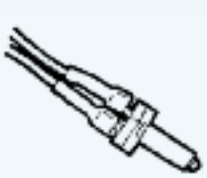
K67 - 40705 T
Kit to connect C2, C8 and MACHZero cables to B322 and B324 controls (supplied with the box)

K71

K72

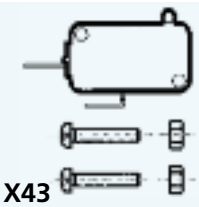
K71 - 42082 T
Kit to connect C14 and MACH14 cables to B400 and B401-ETC controls

K72 - 42083 V
Kit to connect C5, C16 and MACH5 cables to B400 and B401-ETC controls



X12

X41



X43

X12 - 34543 Q
Neutral safety switch to prevent in-gear starting.

X41 - 38130 F
Neutral safety switch to prevent in-gear starting, suitable for B400 and B401-ETC controls.

X43 - 38160 L
Neutral safety switch to prevent in-gear starting, suitable for B103 and B104 controls.

ENGINE CONTROL CABLES

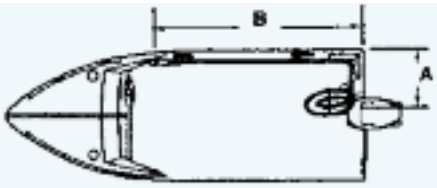
HOW TO MEASURE FOR CONTROL CABLE INSTALLATION

FOR NEW INSTALLATION, measure A + B distance from the control along an unobstructed cable routing to clutch and / or throttle connection.
Round this dimension off to the next whole foot: you will have your cable length.
We recommend that the cable bends have a minimum radius of about 8" (200 mm).
For outboard engine installations, it is necessary to add three feet to the obtained length, in order to allow the engine movement.
To determine the needed length of the REPLACEMENT CABLE, measure it from tip to tip.
When ordering, specify the cable length in feet, rounding the dimension off to the next whole value.
If any kit is required to complete the cable connection, consult the appropriate section in this catalogue. (Page 124)

SELECTION OF ENGINE CONTROL CABLES

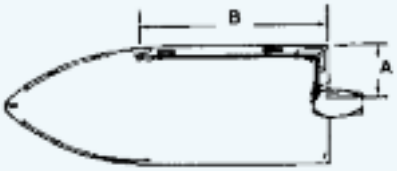
ENGINE		ULTRAFLEX ENGINE CONTROL CABLES
OUTBOARD	Mercury® and Gen. II™ Controls	C36 - MACH36
	Mercury® Mariner® over 50 hp (37kW)	C5 - MACH5
	Mariner® up to 50 hp (37kW)	C16
	Force® Selva® Yamaha® Suzuki® Tohatsu® Honda® Nissan®	C2 - C8 - MACHZero
	Johnson® - Evinrude® - BRP®	after 1979 C14-MACH14
JET	Weber®	C40 - C41
STERNDRIVE	Mercruiser® and Gen. II™ Controls	C36 - MACH36
	Mercruiser®	C5 - MACH5
	OMC® - BRP®	after 1979 C14-MACH14
	Volvo Penta® Yanmar® Volkswagen®	C2 - C8 MACHZero - C22
INBOARD		C2 - C8 - MACHZero - C22

OUTBOARD



A + B + 3' (90 cm) = L

INBOARD/STERNDRIVE



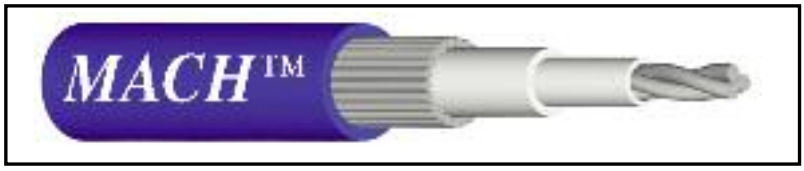
A + B = L

MACH™ SERIES HIGH EFFICIENCY AND FLEXIBILTY ENGINE CONTROL CABLES

For the ultimate in efficiency and response, the Mach Series cables deliver unmatched results. They have been specifically designed to make even the most complex of cable installations result in smooth, easy and precise shift and throttle movement.
Using a patented stranded wire core with lubricated extrusion, the Mach cables are an ideal solution for applications with long cable runs, tight bends, or where easy and precise throttle response is required. Mach Series cables also feature solid stainless steel output fittings and are available in universal style (like C2, C8), Mercury Gen I, Mercury Gen II and BRP® styles.

MACHZero **MACH5** **MACH14** **MACH36**

- The PATENTED "high performance" *MACH*™ Cables are the result of our decades of experience in producing high quality, long lasting, flexible cables.
  The innovative core design maximizes efficiency and minimizes lost motion, while the exclusive design of the conduit provides extremely high level of flexibility.



FEATURES AND PERFORMANCE

- Available in the following configurations:
  - **MACHZero** - Universal style (like C2, C8)
  - **MACH5** - Mercury® style (like C5)
  - **MACH14** - Current OMC® - BRP® style (like C14)
  - **MACH36** - Gen II Mercury® style (like C36)
- Suitable for outboard – inboard and sterndrive engines
- High efficiency for smooth operation
- High flexibility for reduced bend radius. Ideal for long complex cable routings
- Maintenance free
- Stainless steel cables end fittings
- High resistance blue outer jacket against abrasion, UV and chemicals

CONTROL CABLES FOR WEBER® ENGINES

C40 Stroke: 3,4 " (86 mm) Throttle cable for **Weber®** engines

C41 Stroke: 3,3" (84 mm) Shift cable for **Weber®** Jets

ENGINE CONTROL CABLES

C2 Stroke: 87 mm (3.4”)
For use with inboard, sterndrive and outboard engines with appropriate accessories.

C8 Stroke: 87 mm (3.4”)
For use with inboard, sterndrive and outboard engines, with appropriate accessories.

MACHZero 87 mm (3.4”)
For use with inboard, sterndrive and outboard engines.
Ideal for high performance applications, long cable runs and complex routings.
Blue color jacket.

C14 Stroke: 75 mm (3”)
For BRP® - Evinrude® (OMC®) engines manufactured from 1979 to date.

MACH14 Stroke: 75 mm (3”).
For BRP® - Evinrude® (OMC®) engines manufactured from 1979 to date.
Blue color jacket
High performance applications

C36 Stroke: 87 mm (3.4”)
For Mercury® and Mercruiser® engines and Mercury® Generation II™ series controls.

MACH36 Stroke: 87 mm (3.4”).
For Mercury® and Mercruiser® engines and Mercury® Generation II™ series controls.
Blue color jacket
High performance applications

C5 Stroke: 95 mm (3.75”)
For Mercury® and Mercruiser® engines.

MACH5 Stroke: 95 mm (3.75”).
For Mercury® and Mercruiser® engines.
Blue color jacket
High performance applications

C16 Stroke: 80 mm (3.1”). For Mariner® engines up to 40 hp.

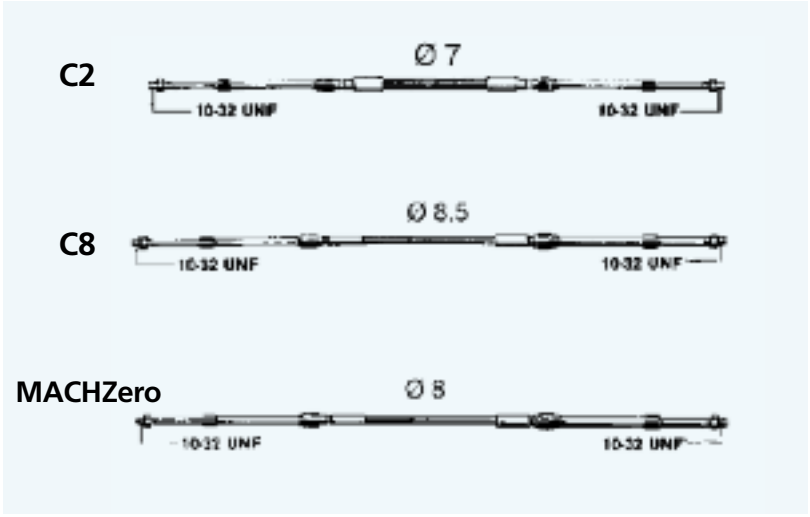
C22 Stroke: 80 mm (3.1”)
Stainless steel clamp fittings.
Recommended for heavy duty applications.

B14 Stroke: 70 mm (2.8”)
Designed for throttle, fuel shut-off and other applications. Supplied with L13 and L14 clamp and shim.

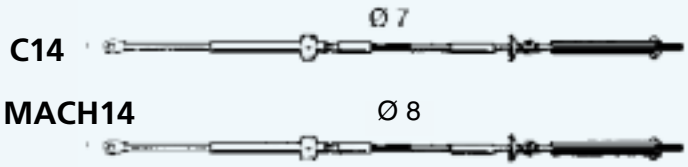
C40 Stroke: 86 mm (3.4”)
Throttle Cable for Weber® engines

C41 Stroke: 84 mm (3.3”)
Shift Cable for Weber® Jets

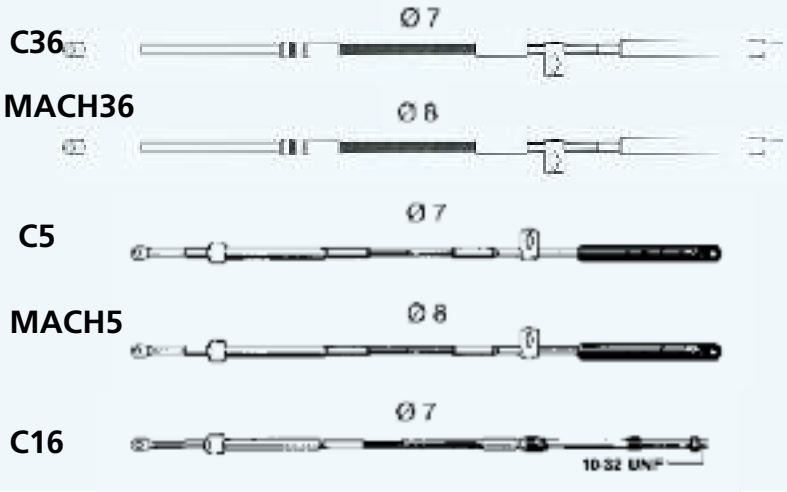
K68 - 40895 B
Recessed bulkhead support for B14 cable.

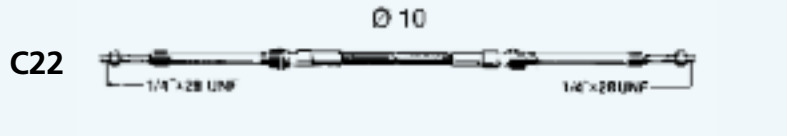


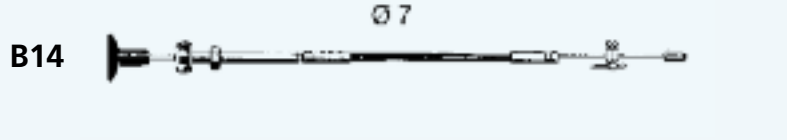
BRP® - EVINRUDE® (OMC®) CABLES

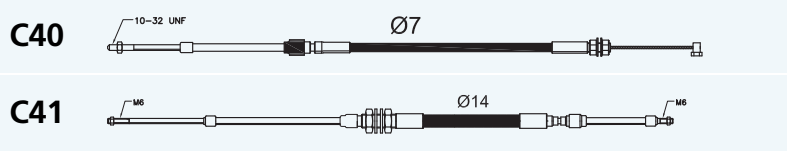


MERCURY® - MERCRUISER® - MARINER® CABLES









ACCESSORIES FOR ENGINE CONTROL CABLES

L2 - 30324 D
Cable clamp block

L3 - 30325 E
Shim and clamp block.
Fits C2, C8 and MACHCZero cables.

L7 - 38078 U
Ball joint 10-32 UNF.
Stainless steel, fits C2, C8 and MACHCZero cables.

L12 - 30334 F
Cable end fitting.
Fits C2, C8 and MACHCZero cables.

L13 - 30335 G
Stop collar. Fits B14 cables.

L14 - 30336 H
Cable clamp block.
Fits C2, C8 and MACHCZero cables.

L25 - 31906 D
Clevis 10-32 UNF.
Fits C2, C8 and MACHCZero cables.

L26 - 33517 N
Clevis 1/4" x 28 threaded. Fits C22 cable.

K56 - 39237 C
Adapts C2, C8 and MACHCZero cables for use with Mercury engines.

K57 - 39238 E
Adapts C2, C8 and MACHCZero cables for use with BRP® - Evinrude engines.

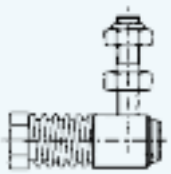
YAMAHA ENGINE KITS*

K7 - 30320 V for 15 hp engines
K8 - 30321 A for 25 hp engines
K9B - 33205 A for 5 hp engines
K14B - 32584 E for 10/15 hp engines
K14F - 38098 C for 10/15 hp engines
K36 - 35034 B for 8 hp engines
S-2674 - 32654 X Yamaha Throttle Connector
S-2675 - 32655 Y Yamaha Shift Connector

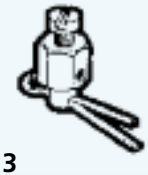
** Minimun order quantity:*
10 pieces for part number

L2

L3


L7

L12


L13

L14

L25

L26

K56

K57

K7

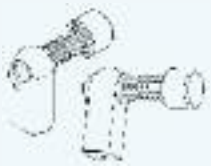
K8

K14B

K9B

K14F

K36


S-2674

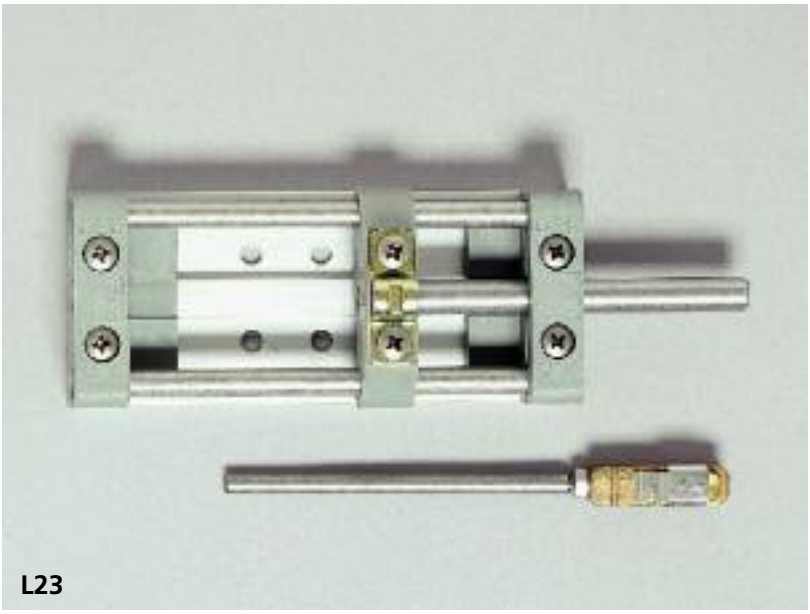
S-2675

SELECTOR UNIT FOR DUAL STATION APPLICATIONS

Selector unit for use with single lever controls in dual station applications. It enables indipendent control over throttle and shift from either the main station or the flying bridge station.

NOTE: before changing station, throttle must be on idling position and shift in neutral.

L23 - 31649 B



L23

CONTROL CABLE APPLICATION MATRIX

SINGLE LEVER CONTROLS

MODEL	B400 B401	B183 - B184 B85 B310CH - B310BR - B310B	B301 B302	B103	B104	B65 - B66 - B73 B74 - B76 - B77 - B78 B79 - B665 - B666	B89 B90
C2	X	X	K59*	X	X	X	X
C8	X	X	K59*	X	X	X	X
C14	K71	X	X	-	-	X	X
C5	K72	K35	K60	-	-	K35	K35
C36	K73	-	K62	-	-	-	-
C16	K72	K35	K60	-	-	K35	K35
C22	-	-	K61	K33	-	-	-
MACHZero	X	X	K59*	X	X	X	X
MACH5	K72	K35	K60	-	-	K35	K35
MACH36	K73	-	K62	-	-	-	-
MACH14	K71	X	X	-	-	X	X

***:** Supplied with the control
X: No kit required
- : No connection

TWO LEVER CONTROLS

MODEL	B322 B324	B46 - B50 B58- B59	B99 B101 - B102	B47 B49	B35
C2	K67*	X	X	K25	X
C8	K67*	X	X	K25	X
C14	X	-	-	K23	-
C5	K63	-	-	X	-
C36	K65	-	-	-	-
C16	K63	-	-	X	-
C22	K64	K22	K32	-	-
MACHZero	K67*	X	X	K25	X
MACH5	K63	-	-	X	-
MACH36	K65	-	-	-	-
MACH14	X	-	-	K23	-

***:** Supplied with the control
X: No kit required
- : No connection

125

MAGNETIC COMPASSES

UFLEX

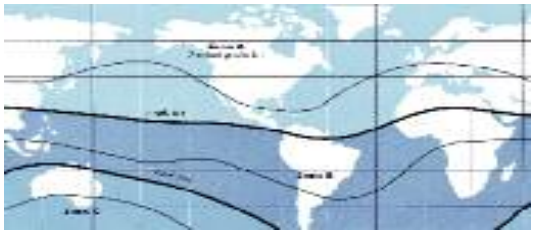
MAGNETIC COMPASSES

UFLEX COMPASSES

Uflex offers a wide choice of models and styles of compasses both for power and sail boats. Mounting options vary from bulkhead, flush or bracket mounting to deck or pedestal assembly.
Every Uflex compass is individually calibrated to ensure precision in highly variable temperatures.

POWERBOAT COMPASSES

Easy to read, stylish compasses, they are extremely reliable and highly stable thanks to the unique shock absorber system.



SAILBOAT COMPASSES

With their low inertia card design that provides high stability and readability in all conditions, these compasses represent the best value in sailing. The 45° lubber lines and the 45° built-in clinometer give the helmsman instant reference points for tacking and heel angle

CARD BALANCING

The cards in magnetic compasses are balanced to compensate for the dip caused by the earth's magnetic field. All Uflex compasses are standard balanced for use in the Northern Hemisphere (Zone A). When ordering compasses to be used in the Southern Hemisphere (Zone B-C), please specify the zone number of your boating area.

SERIES	MODEL	APP. DIAL Ø	DIAL COLOUR	MOUNTING FL: flush mount BR: bracket BI: binnacle BU: bulkhead	COLOUR OF HOUSING B: black W: white G: gray CR: chrome	TILTING ANGLE fore and aft Roll	CLINOMETER	COMPENSATORS	ILLUMINATION
AMALFI	A-65 L BI/B	2½"	BLACK	BINNACLE	BLACK	± 30°			●
	A-65 L BI/W	2½"	WHITE	BINNACLE	WHITE	± 30°			●
	A-65 L BI/G	2½"	BLACK	BINNACLE	GRAY	± 30°			●
	A-65 L BI/CH	2½"	BLACK	BINNACLE	CHROME	± 30°			●
	A-65 L BR/B	2½"	BLACK	BRACKET	BLACK	± 30°			●
	A-65 L BR/W	2½"	WHITE	BRACKET	WHITE	± 30°			●
	A-65 L BR/G	2½"	BLACK	BRACKET	GRAY	± 30°			●
PISA	P-80 BR/B	3"	BLACK	BRACKET	BLACK	± 30°		●	●
	P-80 BR/W	3"	WHITE	BRACKET	WHITE	± 30°		●	●
	P-80 BR/G	3"	BLACK	BRACKET	GRAY	± 30°		●	●
	P-80 FL/B	3"	BLACK	FLUSH MOUNT	BLACK	± 30°		●	●
	P-80 FL/W	3"	WHITE	FLUSH MOUNT	WHITE	± 30°		●	●
	P-80 FL/G	3"	BLACK	FLUSH MOUNT	GRAY	± 30°		●	●
	P-80 BI/B	3"	BLACK	BINNACLE	BLACK	± 30°		●	●
	P-80 BI/W	3"	WHITE	BINNACLE	WHITE	± 30°		●	●
	P-80 BI/G	3"	BLACK	BINNACLE	GRAY	± 30°		●	●
	P-80 LP/B	3"	BLACK	LOW PROFILE	BLACK	± 30°			●
	P-80 LP/W	3"	WHITE	LOW PROFILE	WHITE	± 30°			●
	P-80 LP/G	3"	BLACK	LOW PROFILE	GRAY	± 30°			●
	P-90 BU/B	3½"	BLACK	BULKHEAD	BLACK	± 30°	●	●	●
	P-90 BU/W	3½"	WHITE	BULKHEAD	WHITE	± 30°	●	●	●
	P-80 BU/CH	3½"	BLACK	BULKHEAD	CHROME	± 30°	●	●	●
	P-80 BU/S	3½"	SECTOR	BULKHEAD	BLACK	± 30°	●	●	●

3 YEARS GUARANTEE

Our products are guaranteed, for a period of three years from the manufacture date, against defects in material and workmanship. Alleged defective products returned, freight prepaid, within the above said term, will be repaired or replaced at our option, free of charge, if found effectively below our quality standards. This guarantee does not cover other claims for direct or indirect damage. In particular, we decline liability and exclude guarantee (except for what stated above) if improper installation or misuse should result in the failure of our products.
All Uflex compasses meet the D.M. 388 29/09/1999 art. 3, paragraph 2.

A-65 BI/G

A-65 BI/CH

A-65 BI/W

A-65 BI/B

A-65 AMALFI SERIES

- 2 1/2" (65 mm) apparent diameter dial
- front reading dial
- 5° dial graduation
- compact low profile
- snap-in mounting feature for easy removal
- binnacle or bracket installation
- shock resistant and antiscratching polycarbonate dome
- standard models with internal LED illumination
- black, grey, white and chrome (binnacle only) housing
- clamshell or box standard packaging

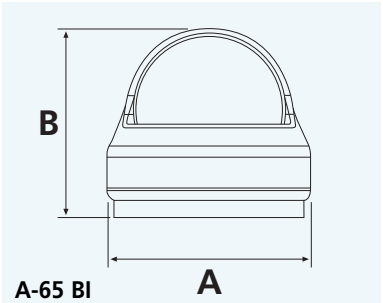
A-65 BINNACLE INSTALLATION (BI)

Low profile binnacle mounting compass that can be easily removed from its base acting on the snap-in mounting bracket.

Clamshell packaging

Without Illumination
A-65 BI/B - 39320 N Black
A-65 BI/W - 39377 V White
A-65 BI/G - 39375 R Grey
A-65 BI/CH - 40901 T Chrome plated

With Illumination
A-65 L BI/B - 39350 Y Black
A-65 L BI/W - 39351 A White
A-65 L BI/G - 39379 Z Grey
A-65 L BI/CH - 40903 X Chrome plated



A-65 BI

A	86 mm - 3.39"
B	78 mm - 3.1"

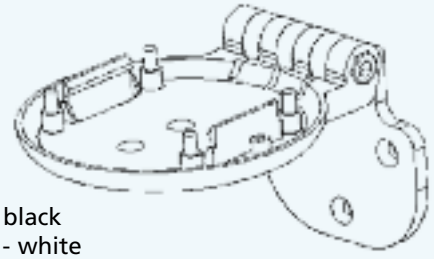
Box packaging

Without Illumination
A-65 BI/B box - 39382 M Black
A-65 BI/W box - 39383 P White
A-65 BI/G box - 39384 S Grey
A-65 BI/CH box - 40905 B Chrome plated

With Illumination
A-65 L BI/B box - 39385 U Black
A-65 L BI/W box - 39386 W White
A-65 L BI/G box - 39387 Y Grey
A-65 L BI/CH box - 40907 F Chrome plated

MOUNTING VERSATILITY

Order **BRACKET 65** if you wish to transform your **A-65 BI** binnacle compass in a **A-65 BR** bracket compass.



BRACKET 65/B – 39356 L - black
BRACKET 65/W – 40109 A - white
BRACKET 65/G – 40110 J - grey

A-65 BR/G

A-65 BR/W

A-65 BR/B

A-65 AMALFI SERIES

- 2 1/2" (65 mm) apparent diameter dial
- front reading dial
- 5° dial graduation
- compact low profile
- snap-in mounting feature for easy removal
- binnacle or bracket installation
- shock resistant and antiscratching polycarbonate dome
- standard models with internal LED illumination
- black, grey, white and chrome (binnacle only) housing
- clamshell or box standard packaging

A-65 BRACKET INSTALLATION (BR)

The bracket version of the A-65 Amalfi series compass is designed for multiple mounting capabilities both in a horizontal or inclined dashboard or a bulkhead. It can be easily removed from its bracket acting on the snap-in mounting system

Clamshell packaging

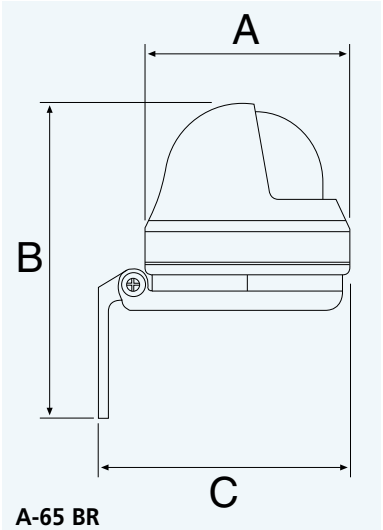
Without Illumination
A-65 BR/B - 39321 R Black
A-65 BR/W - 39378 X White
A-65 BR/G - 39376 T Grey

With Illumination
A-65 L BR/B - 39352 C Black
A-65 L BR/W - 39353 E White
A-65 L BR/G - 39380 H Grey

Box packaging

Without Illumination
A-65 BR/B box - 39388 A Black
A-65 BR/W box - 39389 C White
A-65 BR/G box - 39390 L Grey

With Illumination
A-65 L BR/B box - 39391 N Black
A-65 L BR/W box - 39392 R White
A-65 L BR/G box - 39393 T Grey



A-65 BR

A	86 mm - 3.39"
B	132 mm - 5.2"
C	106 mm - 4.17"

P-80 BR/G

P-80 BR/W

P-80 BR/B

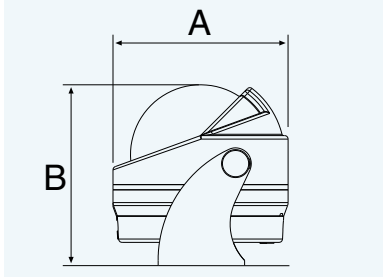
P-80 PISA SERIES

- 3" (80 mm) apparent diameter dial
- front reading dial
- low and compact profile
- bracket, flush, binnacle and bulkhead mount choice
- semi-gimbal system
- internal LED illumination
- built-in compensators (P-80 LP models excepted)
- available in black, white and gray housing
- 5° dial graduation
- single box packaging
- **All Pisa series compasses meet the D.M. 388 29/09/1999 art. 3, paragraph 2.**

P-80 BRACKET MOUNT (BR)

Bracket mount compasses easy to install in multiple ways both on a dashboard or a cabin overhead. The compass can be easily removed from its brackets by loosening the two sidemounted amagnetic screws.

P-80 BR/B 39591 X – front reading, black housing and card
P-80 BR/W 39597 K – front reading, white housing and card
P-80 BR/G 39593 B – front reading, gray housing, black card



P-80 BR

A	100 mm - 3.9"
B	103.5 mm - 4.1"

P-80 FL/G

P-80 FL/W

P-80 FL/B

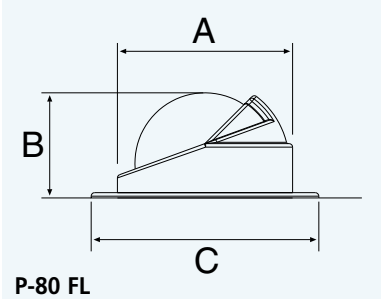
P-80 PISA SERIES

- 3" (80 mm) apparent diameter dial
- front reading dial
- low and compact profile
- bracket, flush, binnacle and bulkhead mount choice
- semi-gimbal system
- internal LED illumination
- built-in compensators (P-80 LP models excepted)
- available in black, white and gray housing
- 5° dial graduation
- single box packaging
- **All Pisa series compasses meet the D.M. 388 29/09/1999 art. 3, paragraph 2.**

P-80 FLUSH MOUNT (FL)

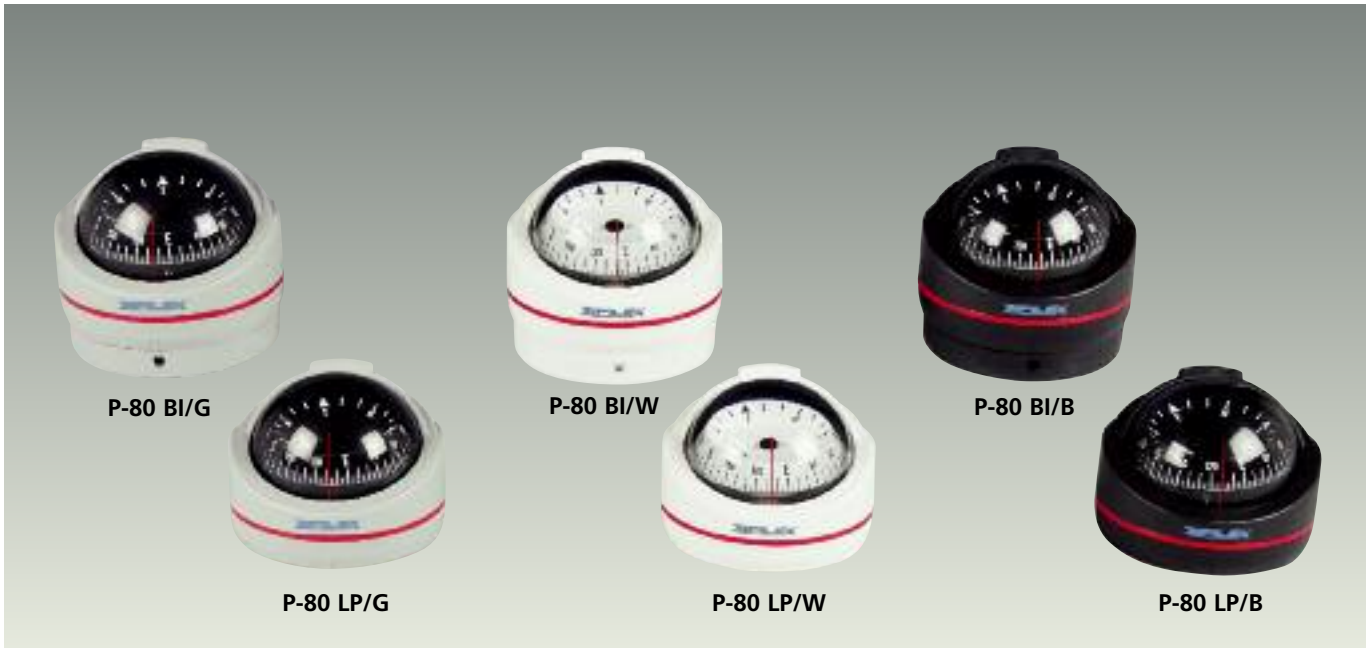
Flush mount compasses designed for mounting on top of an instrument panel or any flat surface from horizontal plane to 45° fore and aft tilt.

P-80 FL/B 40162 E – front reading, black housing and card
P-80 FL/W 40163 G – front reading, white housing and card
P-80 FL/G 41203 X – front reading, gray housing, black card



P-80 FL

A	100 mm - 3.9"
B	60 mm - 2.36"
C	130 mm - 5.1"



P-80 PISA SERIES

- 3" (80 mm) apparent diameter dial
- front reading dial
- low and compact profile
- bracket, flush, binnacle and bulkhead mount choice
- semi-gimbal system
- internal LED illumination
- built-in compensators (P-80 LP models excepted)
- available in black, white and gray housing
- 5° dial graduation
- single box packaging
- **All Pisa series compasses meet the D.M. 388 29/09/1999 art. 3, paragraph 2.**

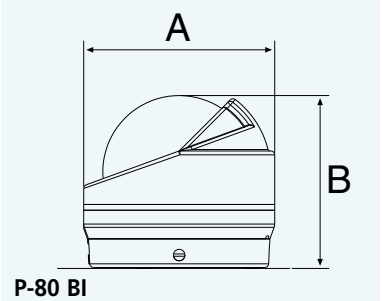
P-80 BINNACLE MOUNT (BI)

P-80 BI/B	40164 J	– front reading, black housing and card
P-80 BI/W	40165 L	– front reading, white housing and card
P-80 BI/G	41244 M	– front reading, gray housing, black card

P-80 BINNACLE MOUNT "LOW PROFILE" (LP)

P-80 LP/B	41245 P	– front reading, black housing and card
P-80 LP/W	41246 S	– front reading, white housing and card
P-80 LP/G	41247 U	– front reading, gray housing, black card

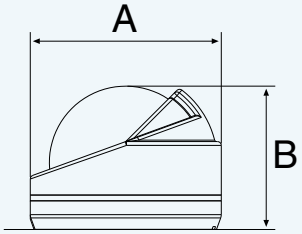
NOTE: Compensation is not included in P-80 LP models.



P-80 BI

A	100 mm - 3.9"
B	90,5 mm - 3.6"

A	100 mm - 3.9"
B	75,5 mm - 3"



P-80 LP

P-90 BU/B

P-90 BU/W

P-90 BU/CH

P-90 BU/T

P-90 BU/S

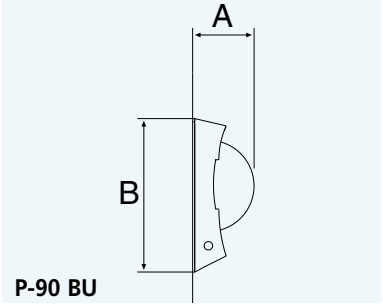
P-90 PISA SERIES

- 3.5" (90 mm) apparent diameter dial
- front reading dial
- low and compact profile
- bracket, flush, binnacle and bulkhead mount choice
- semi-gimbal system
- internal LED illumination
- built-in compensators (P-80 LP models excepted)
- available in black, white, chrome and titanium (bulkhead only) housing
- 5° dial graduation
- single box packaging
- **All Pisa series compasses meet the D.M. 388 29/09/1999 art. 3, paragraph 2.**

P-90 BULKHEAD MOUNT (BU)

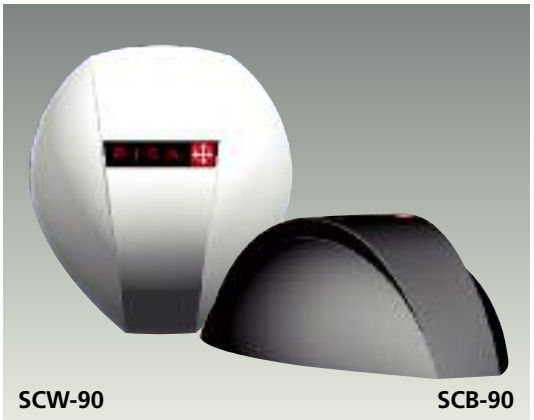
Bulkhead or panel mount compasses ideal for both sailing and motor boats. The gimballing system allows them to be mounted on a vertical or up to 45° front sloping console.

P-90 BU/B	41248 W – front reading, black housing and card
P-90 BU/W	41249 Y – front reading, white housing and card
P-90 BU/CH	41250 G – front reading, chrome plated housing, black card
P-90 BU/T	41251 J – front reading, titanium housing, black card
P-90 BU/S	41252 L – front reading, black housing, sector card
SCB-90	41253 N – optional black cover
SCW-90	41254 R – optional white cover



P-90 BU

A	58.5 mm - 2.3"
B	146 mm - 5.75"



SCW-90 SCB-90

ULTRAFLEX S.p.A.

AVAILABLE SPARE PARTS

WARNING

In order to mantain the correct functionality of the product, the replacement with spare parts has to be made by qualified technicians **only**.

T67	
Black bezel	59336 W
White bezel	59601 U
Zinc-chrome steel bushing	56402 K
Installation kit	38070 K
Shaft kit	70550 J
M58	
Lock nut engine side	55170 M
T85	
Black bezel	59336 W
White bezel	59601 U
Shaft kit	70550 J
Spent travel nylon tube	59869 F
Plastic ferrule for nylon tube	59857 Z
Cable lock-in screw	59926 R
Installation kit	41165 S
T71FC - T72FC - T73NRFC - T74NRFC	
90° Black bezel	58051 L
90° White bezel	71942 H
Shaft kit	70549 A
Cable lock-in screw	70022 G
Spent travel nylon tube	59869 F
Plastic ferrule for nylon tube	59857 Z
X52 Tilt Mechanism	
Upper cover	70123 N
Lower cover	70140 N
Gasket	70138 C
T86 - T88	
2 Shaft kits	71109 A
Steering Wheels	
Stainless steel silver screws	60697 Q
Stainless steel black screws	60698 T
Black cap for V32	58078 Y
White cap for V32	58079 Z
Grey cap for V32	70155 C
Black cap for V33	59763 O
White cap for V33	59764 P
Grey cap for V33	59765 Q
Black cap for V45	59061 O
White cap for V45	59002 D
Grey cap for V45	71108 Y
Black cap for V38	59061 O
White cap for V38	59002 D
Black cap for Antigua	70161 X
White cap for Antigua	70162 Z
Grey cap for Antigua	70163 V
Silver painted cap for Antigua	70165 F
Burl wood cap for Antigua	70164 D
Wood cap for V23 and V35	56384 G
B301CR - B302CR - B301B - B302B - B322 - B324	
Lever assembly with black knob	40897 F
Lever assembly with red knob B322 - B324	40898 H
Black knob	72054 G
Red knob	72020 N
Chrome rear cover B301CR	71461 R
Black painted rear cover B301B	71501 A
Gasket for B301CR - B301B	71366 X
Gasket for B302CR - B302B - B322 - B324	71516 P
Installation kit B301CR	40170 D
Installation kit B301B	40744 D
Installation kit B302CR	40743 B
Installation kit B302B	40192 P
Installation kit B322 - B324	40703 N

AVAILABLE SPARE PARTS

WARNING

In order to mantain the correct functionality of the product, the replacement with spare parts has to be made by qualified technicians **only**.

B103 - B104	
Lever with handle	60909 N
Black knob	34830001
X55 Silver knob B103/B104	39421 V
Gasket for B103	61425 E
Gasket for B104	61426 G
Rear cover for B103	61738 C
Installation kit B103	60979 B
Installation kit B104	60804 D

B65 - B665 - B66 - B666 **B73 - B74 - B76 - B77 - B78 - B79**	
Lever assembly B66 – B65 – B73 – B74	57076 R
Lever assembly B665	40915 E
Lever assembly B666	40916 G
Lever assembly with trim B76-B77-B78-B79	57459 E
Chrome rear cover	55529 Z
Black rear cover	55608 X
Installation kit B65 - B665	35147 J
Installation kit B66 - B666	30078 K
Installation kit B73	30049 F
Installation kit B74	35366 S
Installation kit B76	36134 F
Installation kit B77	30016 Q
Installation kit B78	36135 G
Installation kit B79	30017 R

B310CH - B310BR - B310B	
Lever assembly B310CH	73158 A
Lever assembly B310BR	72119 J
Lever assembly B310B	73177 E
Screw cover flange B310CH - B310BR - B310B	72110 P
Chrome plated external flange B310CH - B310BR - B310B	72108 D
Black internal flange B310CH - B310BR - B310B	72109 F
Installation kit B310CH - B310BR - B310B	72222 B

B183 - B184 - B85	
Lever assembly B183	70013 F
Lever assembly B184	70020 C
Cover for B183 – B184 – B85	56012 A
Flange for B183 – B184 – B85	56011 V
Installation kit B103	38947 F
Installation kit B184	38979 V
Installation kit B85	36008 C

B89 - B90	
Black lever with lock	58245 T
White lever with lock	57899 L
Installation kit B89 - B90	36168 R

B46 - B50 - B58 - B59	
Cover	57960 T
Black knob	32394 A
Red knob	32472 Q
Installation kit	35365 R

B99 - B101 - B102	
Red knob B99 – B101 – B102	58266 Y
Black knob B99 – B101 – B102	53185 V
Installation kit B99 – B101 – B102	35391 A

B14 Engine Stop Cable	
B14 Kit	59976 G

WARNING

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HELM PUMPS

Vented filler plug kit with valve	40801 N
Non vented filler plug kit	40800 L
Shaft seal kit	40875 V
Installation kit for UP20 F	40248 R
Installation kit for UP20 T	39501 T
Installation kit for: UP25 F/25NV F/28 F/33 F/33NV F/39 F/45 F and UP28-SVS	39476 X
Installation kit for UP25 T/28 T/33 T/39 T/45T	39501 T
Installation kit for UP28 R/33 R/39 R/45 R	39500 R
Nylon round flange for X57	70666 E
Nylon square flange for X64	70670 V
Chrome plated cover ring - X68	40894 Z
Pump filling kit	40876 X

UC94-OBF OUTBOARD CYLINDER

Black bull horn mounting bracket	40877 Z
Through tube stainless steel rod	40174 M
Spacer kit	40878 B
Tiller arm connecting	42080 N

UC128-OBF OUTBOARD CYLINDER

Black bull horn mounting bracket	39490 R
Through tube stainless steel rod	39491 T
Spacer kit	41812 Z
Plastic cap kit	41810 V
UC128 Hardware kit	39979 A
Tiller arm connecting kit (ultrabolt)	40822 X

UC128-SVS OUTBOARD CYLINDER

Tiller arm connecting kit (ultrabolt)	42081 R

UC68-OBS OUTBOARD CYLINDER

Stainless steel tilt tube extension	39495 B

UC132-OBS OUTBOARD CYLINDER

Stainless steel tilt tube extension	39495 B
Extension rod connecting pin	40917 J

INBOARD CYLINDERS

Balljoint for UC69-I	40883 U
Balljoint for UC116-I	39477 Z
Balljoint for UC168-I and UC215-I	39478 B
Balljoint for UC293-I	40178 W
Balljoint for UC378-I	41310 Y
Balljoint and shim for UC69-I	40884 W
Balljoint and shim for UC116-I	39479 D
Balljoint and shim for UC168-I e UC215-I	39480 M
Balljoint and shim for UC293-I	40180 G
Balljoint and shim for UC378-I	41311 A

STERNDRIVE CYLINDERS

Extension rod connecting pin	40917 J

NUT AND SLEEVE

Brass nut and sleeve	71004 K
Nickel plated brass nut and sleeve	71013 L

Cover picture: with the kind cooperation of Intrepid Powerboats Inc.

ULTRAFLEX S.p.a.

Via Milite Ignoto 8A
16012 Busalla (GE) - Italy
T +39 010 9620310 F +39 010 9620333
ut@ultraflexgroup.it
www.ultraflexgroup.it

ULTRAFLEX GROUP